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EXTRACT

*From an Act prescribing Rules for the Government of the State Library,
passed March 8th, 1861.*

SECTION 11. The Librarian shall cause to be kept a register of all books issued and returned; and all books taken by the members of the Legislature, or its officers, shall be returned at the close of the session. If any person injure or fail to return any book taken from the Library, he shall forfeit and pay to the Librarian, for the benefit of the Library, three times the value thereof; and before the Controller shall issue his warrant in favor of any member or officer of the Legislature, or of this State, for his per diem, allowance, or salary, he shall be satisfied that such member or officer has returned all books taken out of the Library by him, and has settled all accounts for injuring such books or otherwise.

SEC. 15. Books may be taken from the Library by the members of the Legislature and its officers during the session of the same, and at any time by the Governor and the officers of the Executive Department of this State who are required to keep their offices at the seat of government, the Justices of the Supreme Court, the Attorney-General, and the Trustees of the Library.

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LONGLEY'S PATENT HOISTING APPARATUS.

This hoisting apparatus is coming largely into use, and is much commended for its extreme simplicity, and the great facility with which it can be applied to a variety of purposes, as well as for the great weight which it can be made to lift, with a small application of power. Our engraving represents one man in the act of lifting a locomotive from the track, which, we suppose, cannot be one of the largest size, as the inventor claims no more than that by its aid one man can lift twelve tons; which, of itself, however, is quite sufficient to render the apparatus a most valuable and efficient aid in raising heavy bodies.

Mr. Longley obtained his first patent, March 1st, 1864. The engraving we give to-day represents an improvement in the original invention, which consists in the use of a worm-wheel instead of a pinion and spur-wheel, to increase the force applied in lifting. The apparatus, as now constructed, was first described in the *New York Artisan* of March 28, 1866, as follows:

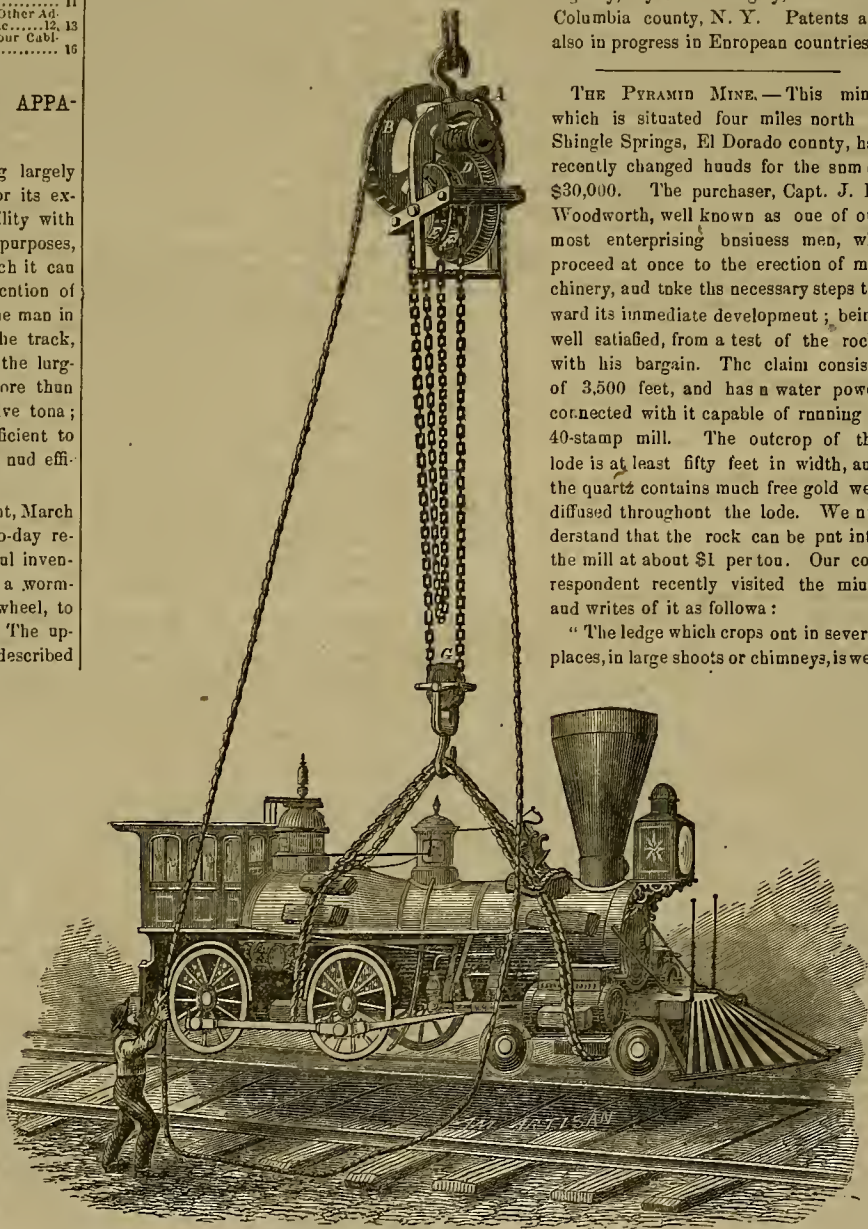
The lifting-chain passes over differential pulleys or chain-wheels, F and E, so that, in lifting, the smaller unwinds as the larger winds up, and the effective lift at each turn is equal to half the difference between the circumferences of the two pulleys. Motion is given to the chain-wheels by the screw, C, acting on the worm-wheel, D, which is fixed on the same shaft as the chain-wheels. The screw is turned by the chain-pulley, B, which is fixed upon the screw-shaft. The hand-chain or rope is endless. As one turn of the hand-chain pulley, B, turns the worm-wheel, D, one tooth; and one turn of the worm-wheel lifts the load through a space equal to half the difference of the circumferences of the chain-wheels, and as this difference may be as small as required, and the pitch of the screw and worm-wheel may be fine, and the pulley of the hand-chain wheel may be large, it is evident that a great lifting power can be attained with these few simple parts, and that very heavy loads may be lifted by the apparatus. When lowering the sheave-block, G, the worm-screw is disengaged from the worm-wheel, so that it may be run down fast. And when lifting weights less than a ton it may be left disengaged; and the lifting may be done by hauling upon the loop of

the main lifting chain; and thus a quick movement may be given for light work, or a slow movement for heavy work, merely by pulling a cord, which, by means of an eccentric, A, gears and ungears the screw and worm-wheel.

For ordinary work, the apparatus is so proportioned that a pull of 25 lbs. on the hand-chain, or rope, will lift a ton. For heavy work, it may be proportioned so that one ton can be

be worked with advantage by steam or horse power, especially for heavy lifting. When there is not constant work to warrant the expense of such machinery, it may be desirable for heavy jobs, a cheap portable apparatus is the most convenient and economical; and this is offered us the best machine for such cases.

Patented in the United States on Oct. 24, 1865, through the "American Artisan Patent Agency," by S. M. Longley, of Hudson, Columbia county, N. Y. Patents are also in progress in European countries.



PATENT HOISTING APPARATUS.

lifted for every pound weight applied to the hand-chain. Mechanics who have used this apparatus agree that it is more efficient, and more easily adaptable to either heavy or light work than any other apparatus of equal weight and portability. The weight of a 1-ton apparatus, to lift 15 feet high, is but 63 lbs. It can

be defined by almost perpendicular walls, being at least seven feet in width at one point where it had been opened by a shaft of thirty feet in depth. It is known to contain fine gold in quantities varying from \$5 to \$35 per ton, having worked up to the higher figures here given, the metal being found well diffused

through the rock, of which there appear to be thousands of tons thrown up here above the surface. It possesses advantages in point of accessibility and facilities for working rarely found, the lode being crossed near the largest chimney by Dry Creek, which has a fall of upwards of fifty feet, and a ditch already constructed which conveys an abundant supply of free water from this, and also from Indian Creek, but a short distance above. The parties interested in the mine expect soon to avail themselves of the advantages here claimed, and will be able, I trust, in a short time to open up one of the most valuable, as it now is one of the largest, claims in the county."

[Reported for the Mining and Scientific Press.]

California Academy of Natural Sciences.

REGULAR MEETING, July 2, 1866.

President Ransom in the Chair.

Twelve members present.

Minutes of previous meeting read and approved.

Messrs. Vitus Wackenreder, Sherman Day, Thos. Price, and E. Wertheman, were elected resident members.

Dr. Pawlicki was proposed for resident membership by Dr. Behr.

Dr. P. Condie, of H. M. S. Sparrowhawk, now at Victoria, V. I., was proposed as corresponding member by the President.

Specimens of ores from Grasa Valley, (Eureka mine), and from the Pahrangat district, (Othello mine), were presented by Mr. Hanks. Steatite, from Capt. Morgan's ranch, Ballenaa Bay, by Capt. Morgan, and curious fungi from the timbers of Nevada mines, by Mr. Ewer.

A large number of valuable books were received from Doctor F. Mueller, of Australia. Various pamphlets by mail from individuals and societies in the East, and a number of Congressional documents from Hon. John Conness, were laid on the table.

Mr. Dall announced on the authority of the newspapers, that the collections, etc., of the New York Lyceum of Natural History, were destroyed in the late fire which burned the Academy of Music.

Dr. James Blake offered the following resolutions, which were adopted:

Resolved, That on learning of the recent loss experienced by the N. Y. Lyceum of Natural History, the California Academy of Natural Sciences, desire to express their sympathy with that Society, and trust that the calamity which has befallen them, will offer but a temporary check to their career of usefulness, and

Resolved, That the Secretary be instructed to forward to the said Society (if desired), a copy of our Proceedings, as far as the disposable copies will admit.

Dr. Gibbons called attention to the researches of Dr. Salisbury, of Ohio, in regard to malarial diseases, and their supposed animal or vegetable origin.

Dr. Hillebrand gave an interesting account of the botanical garden, of Batavia, which contains, among other plants, 262 species of palms. He also described the introduction of the various species of Cinchona trees into India and Java; the difficulties attending it, and its final and great success. Adjourned.

WM. H. DALL, Secretary pro tem.

LAWRENCE CONCANNON, an experienced core maker employed in this foundry department of the Golden State Iron Works, recently fell from the window of his boarding-house, receiving injuries from which he died. He was a steady worker, and much respected by his shopmates, who turned out to his funeral.

Two of Hungerford's new concentrators were sold at the Miners' Foundry, this week, to Mr. Morgan, for his mill near Jackson, Amador county.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Source of the Electric Current in the Voltaic Battery.

BY EDWARD PIQUE.

[Continued from Page 402.]

First Supposition.—Let us assume the action to commence on the copper plate. I say, therefore, the free negative electricity of the copper attracts and reduces the copper contained in the surrounding solution, the sulphuric acid and the oxygen are set free and attracted by the positive zinc, which, being oxydized and dissolved, accounts for the saturated solution of sulphate of zinc. This seems to me a very natural explanation.

Second Supposition.—Let us assume the action to commence on the zinc plate. The zinc would attract the oxygen and the acid of the surrounding solution, but just as fast as the sulphate of zinc would be formed and dissolved, the zinc contained in the solution would be attracted by the negative copper plate, and as first copper, then zinc would there be deposited. The consequence of this would be that the solution on the side of the zinc never would become concentrated, and that most likely the acid of the sulphate of copper never would travel over to the other side.

This second supposition is by no means supported by the results; the first one is completely so, showing that the action commences from the *copper plate*, and not from the zinc, that consequently in the galvanic battery electricity produces chemical changes, and not the contrary. In the above mentioned apparatus there are two fluids, separated by a porous diaphragm, which prevents the fluids from intermixing, but which allows the two solutions to touch each other inside the interposed porous body, so that the electricity can have a passage through the whole arrangement. On the copper side, the neutral solution of sulphate of copper has no chemical influence on the copper, and on the other side the neutral solution of sulphate of zinc has no chemical action on the zinc plate; and if such an action could take place, any chemist must allow that it would require a considerable length of time; but the action of the apparatus is *instantaneous* from the very moment the connexions are completed, and bears all the character of an electric action. Everything that succeeds must be considered a consequence of the same.

Having just before me Smee's *Electro-Metallurgy*, which is one of the most valuable books in this branch, I intend to copy a few paragraphs of it, to examine his views about the source of the power in galvanic batteries. Mr. Smee is no doubt one of the most learned electricians, and at the same time a strong defender of the chemical theory of the pile.

Smee's *Electro-Metallurgy*, § 16, page 7, says: "Whichever theory be adopted, the use of the negative plate is by no means apparent, for the quantity of electricity developed is exactly as the surface of negative metal exposed; thus, provided there be no obstacle to overcome, if the surface of this be doubled, the quantity of electricity will be likewise doubled. The extent of surface of the positive metal, within certain limits, is not of so much consequence."

This explanation, given by Mr. Smee, has been acknowledged by the oldest electricians, and to this day it is believed by all natural philosophers, that the most correct way of constructing a battery is to place the zinc inside of the copper, so as to give the copper a great deal more radiating surface than to the zinc. It is stated that the maximum evolution of electricity occurs when the copper is sixteen times larger than the zinc, and that in this case the quantity of electricity is four and a half times greater than when both plates are of equal size. I should consider this to be another proof, that the action emanates from the copper plate, and therefore originates from electricity.

Mr. Smee mentions likewise that Dr. Faraday had a galvanic battery constructed, consisting only of different solutions without any metal whatever.

My opinion about this matter is, that, since the contact of two different metals produces electricity, as has been proved before, the same must also be the case by the contact of two different fluids, as all the aqueous solutions are conductors of electricity, although in an inferior degree to the metals.

On page 59, Mr. Smee asserts, that the quantity of voltaic force is not dependent on the nature of the negative element. I should think that this is in contradiction to all the laws of nature, as the metals are known to be one more negative or positive than the other, having been placed in a series from the most negative to the most positive, and that the farther distant two metals in this series are, the more powerful must be the electric force arising between them.

Mr. Smee says further: "In a solution of sulphate of zinc, very slightly acidulated, the hydrogen could not be evolved from smooth copper, but would rather reduce the sulphate of zinc, when connected with a small battery. The substitution of smooth platinum in no way added to the power, but the employment of platinized platinum caused an abundant evolution of gas. Even iron caused gas to be evolved and increased the force passing, when smooth platinum would not have the effect."

Mr. Smee proves by the above nothing else but that a metal with a rough surface acts more powerfully than a metal with a smooth surface, as it is known that a gentle action will reduce metal, and a more violent action will cause hydrogen to be evolved. The reason is, that the induction of electricity takes place to a far greater distance from pointed bodies than from a smooth surface; therefore, acting more powerful on a rough surface, causes hydrogen to be evolved. To prove his assertion, that the quantity of voltaic force is not dependent on the nature of the negative element, he ought to have compared different metals with a rough surface, or all of them with a smooth surface, and then he would have found the greater energy of the negative metals. To compare rough iron with smooth platinum proves nothing.

Mr. Smee says further: "I observed that nitric acid allowed far more electricity to pass than sulphate of copper, and that, again, than dilute sulphuric acid, simply from the facility with which hydrogen reduces these substances being greater than the facility of its evolution."

It is certain that *nitric acid* absorbs the hydrogen, as this immediately connects with a part of the oxygen of the nitric acid, and this is one reason for the great power of nitric acid in galvanic batteries, because the hydrogen, like all the other gases, being an insulator of electricity, on being evolved at the negative plate, prevents, for the moment being, the passage of electricity between the two plates. Another reason is, that the nitric acid itself, being an excellent conductor, facilitates greatly the passage of electricity. For the same reason it requires much less power to decompose water, when slightly acidulated with sulphuric acid, because then the fluid conducts the electricity much better, although the sulphuric acid itself is not decomposed. The third reason is, to my opinion, that nitric acid, as a highly oxydized body, shows itself electro-negative, when, by means of a porous diaphragm, it comes in contact with another fluid, producing in this way an electric tension by the contact of the two fluids. *Sulphate of copper* possesses only one of the three advantages above given, namely, the absorption of hydrogen. It is neither such an excellent conductor, nor possesses the quality of being so much electro-negative as nitric acid.

Dilute *sulphuric acid* does not absorb hydrogen; neither is it so much negative as nitric acid. Its only advantage consists in making the water a better conductor, although in a much inferior degree than the nitric acid.

Mr. Smee further says: "In some cases the hydrogen would rather be evolved than to reduce a metallic salt—as sulphate of zinc—and in every case that the facility of its removal affected the amount of power passing, quite independently of the nature of the negative plate."

I have already expressed my opinion about this latter point. In regard to the sulphate of zinc, it is quite natural that, in an acid solution zinc cannot be deposited as a metal, since, as soon as the electricity passing would reduce the zinc as a metal, just so fast the metallic zinc, by the local chemical action of the dilute acid will be again oxydized and dissolved. Here are two powers, one acting in opposition to the other, and the one which is the strongest will influence the final effect.

Smee's *Metallurgy*: "These facts appeared to me a positive proof of there being no such

thing as a negative plate contributing to the production of power, and that this latter is of no value, further than as a means for the removal of the second element of the intervening compound fluid."

I think Mr. Smee contradicts himself here, because he did say (§ 16 p. 7), that the quantity of electricity developed is exactly as the surface of negative metal exposed; thus, if the surface of this be doubled, the quantity of electricity will be likewise doubled.

What he says, that the negative plate has no other business but to remove the second element of the compound fluid, as, for instance, the hydrogen, I do not see the least occasion for it, because nitric acid or blue vitriol will accomplish the same without any further ceremony.

Smee gives now his explanation of the nature of the voltaic force, saying: "If the force, from the experiments of Faraday, is proved to depend on chemical action, and the negative pole from my own experiments is proved to be useless, except as affording the means for the removal of the second element of the compound fluid, then it follows as a natural consequence, that if the chemical affinity of any substance for one element of a compound fluid is greater than the resistance offered to the evolution of the second, force is produced."

If chemical action shall produce force, I should think the first indispensable condition must be that a chemical action should be present; but I do not see any chemical action, as I have explained before. There is no chemical action, if we immerse amalgamated zinc in dilute sulphuric acid, or if we put unamalgamated zinc in salt water. In this latter case, a slow action might take place, by the oxygen and carbonic acid of the atmospheric air, which, in the course of a few days, might assist the zinc to deprive the chloride of sodium of a part of its chlorine, changing it into carbonic of soda; but the action of the battery is instantaneous, therefore the above action, requiring days to take place, can here not be taken into any account. What Mr. Smee says about the negative plate being useless, is contradicted by himself, having shown that the larger the negative plate, the more electricity will be produced.

Now, I think if both the antecedents are wrong, the conclusion arrived at is equally wrong, and without any foundation whatever. The chemical affinity he speaks of does not exist, because no living chemist will say that zinc has more affinity for chlorine than sodium, the latter being one of the most positive metals in existence.

Mr. Smee brings, then, what he considers to be the most powerful argument of his theory as follows:

"It immediately occurred to me that some metals might be made to reduce from a solution of one of their own salts metal of the same description, by placing the metal partly in a solution, for one element of which it has great affinity, and partly in a solution of one of its salts. This was actually found to take place," etc., etc.

I am astonished that this fact should have occurred to Mr. Smee, after it did occur a great many years ago to many other men, as I can prove by several of the oldest works on galvanic electricity.

I have just at hand a work published at Vienna, by Dr. Benjamin Scholz, more than twenty years previous to Mr. Smee's. Dr. Scholz says as follows:

"If we pour water gently on the top of metallic solutions, so that the two fluids do not intermingle, but form two separate layers, and we put through both these layers a rod of the same metal contained in the solution, we obtain a kind of galvanic battery; for instance: a solution of chloride of tin, water, and metallic tin; nitrate of silver, water, and a silver wire; a solution of sugar of lead, water, and a strip of lead. The electricity evolved will manifest itself by the metal being dissolved in its contact with the metallic solution, and being again deposited as a metal in its contact with the water, near the meeting point of the two fluids."

[To be Continued.]

CAUSE OF RAIN AND HAIL.—An interesting essay on the cause of hail and rain has just been laid before the French Academy, by M. Renon. Rain and hail, according to the writer, are produced in the same way—viz., by the passage of a snow-cloud, or cirrus, through a vapor-cloud, or cumulus. The cirrus is generally situated at a height of nearly 7,000 yards above the earth, and consists of fine particles of congealed vapor. Under certain conditions it falls through the cumulus, which is generally at a much lower level, and in so doing it adds to the water the latter contains, and by abstracting its heat converts it into rain. If the abstraction of heat goes on to any great extent, the particles of water become frozen, and fall on the earth as hail.

As, as a general rule, makes the ground hotter and the bad worse.

[Written for the Mining and Scientific Press.]

From Meadow Lake, Nevada County.

MESSRS. EDITORS:—The fame of this region is transcending that of any mining district on the Pacific coast. The wildest enthusiasm pervades the minds of present settlers, and dreams of untold wealth are directing the tide of an immense immigration to this place. The sober considerations of reason are laid somewhat aside, and extravagant hopes are busy in leading the minds of the people astray. This is a new country in every respect, of the wildest and most rugged formation, and presents the strangest questions as to its character. But little is yet known of the mineral deposits here. The character of the quartz is different from any ever before found, and present acquired knowledge is of little use in working it. The oldest and most experienced operators in quartz acknowledge themselves at a loss to describe the nature and quality of the rock found in the ledges of this district. From the entire strangeness of the mineral deposit arises questions as to its extent and permanency that can only be settled by future labor. The wildest hopes now filling the minds of people here are found on surface indications; for not a single ledge has proven to be a *bona fide* mine. There are several mills here, but they have done nothing but crush a few tons of surface rock, which has, however, yielded gold in very flattering amounts. But the history of California quartz mining is full of instances where the finest indications have proven most false, and while such indications are to be well tested, they certainly present no base for such extravagant hopes as are now occupying the minds of the people in this district.

CHARACTER OF COUNTRY.

Wild and rugged as the Sierras are, no portion exceeds this region. Mountains of solid rock rise on every side, presenting scenes of savage grandeur which certainly cannot be surpassed by the famed mountains of the older world. In the midst of the most irregular and rugged places the ledges of quartz extend, piercing in some instances the face of almost inaccessible precipices, and at all times lying between walls of synite, hard as iron. In position the ledges here are the most unfavorable of any on the coast; a very few near the town are tolerable easy of access, but the greater amount of them are on "Old Man Mountain," one of the roughest peaks on the range. It is almost of solid granite or gneiss from base to summit, and rises in a series of precipices that present a splendid picture to the lover of the wild and terrible, but no very pleasant view to him who will be compelled to overcome the roughness of the slopes before the mines can be worked. The mountain in height is said to be about 9,000 feet, and at the very summit some of the ledges that, prospectively, are the most valuable are located. The ledges seem to follow the rise and depression of the general formation. They are easily traced up the mountain side, and can be distinguished at a great distance, from the difference of color, from the masses of gneiss that wall them in. Much could be written about general features, but space forbids. Time alone can unravel the wonderful and strange characteristics of this section, and will in the future settle the present experiment.

THE CALIFORNIA MILL AND MINE.

Is situated about half a mile south of the town, on the Knickerhocker ledge. It was built in December last by the California Mining Company. The mill is of 8-stamp capacity, and is a very fine arrangement in regard to structure and finish. A fine engine, of 35-horse power and 26-inch stroke, drives the machinery, and affords all the power at present necessary. Copper plates are used, and also three amalgamators. The ledge runs southeast by southwest. Above it a tunnel eighty feet in length has been extended, which is expected to strike the ledge in about twenty feet. The quartz found is of dark iron color, filled with sulphurets of different kinds, among which most prominent are sulphurets of iron, copper and arsenic. One run has been made at the mill from surface rock, which yielded \$39.88 per ton. Four

tons were crushed. The gold brick was shown me by Mr. J. K. Stewart, the accommodating superintendent, which was stamped \$159.91. The gold contains silver, and is worth some \$16 per ounce.

WINTON'S MILL.

Just below the California, on the south, was built last summer by the present owner, Mr. N. W. Winton, a gentleman well known to the political and mining circles of Nevada State. The mill at present contains only five stamps of 750 pounds weight, but the foundation for ten stamps has been laid, and they will be erected this season. The engine is 25-horse power, built at the Vulcan Works, San Francisco, in good condition, and fully sufficient for all power needed. Wheeler & Randall's amalgamators are used—three in number. Some considerable work has been done in this mill, but it is not in operation at present. The silver process has been the mode of treating rock, but it has been found too expensive, and changes are being made to work it by different methods. The practical miners here are fearful that the quartz is of a difficult character, and will present many unfavorable features that must be overcome. Belonging to the mill are four lodes—the Indian Boy, R. M. Star, and Seneca. But little work has been done on the lodes, and, consequently, but little known of their value. On the Indian Boy a shaft forty feet deep has been sunk, and a cut thirty-five feet in length by fifteen feet in depth has been extended on the ledge. From the ledge some very rich ore has been taken. The quartz is hard, of dark tinge, similar to rusty iron, and filled with sulphurets of different kinds of iron, and arsenic being the principal ones. The yield of free gold was \$20 per ton. The rock requires roasting before crushing. Sodium-amalgam has been used very successfully at this mill. The operations of the mill will commence soon, and the energy of the proprietor will keep it in steady motion during the summer. Since writing the above, I have been informed that the mill has been leased by the Mohawk and Montreal company for two months, they paying \$600 per month rent.

ENTERPRISE MINE AND MILL

Is situated about six miles southeast from Meadow Lake, between the forks of the South Yuba. It is about three miles north from Cisco, an intended station of the Pacific Railroad. The mine is near the summit of a granite hill, at an elevation of some five or six thousand feet. The ledge, one of the largest I have ever seen, extends northeast by southwest, in a caving of hard granite. The eastern wall has been found, but the western is not in sight. The cut on the ledge is forty feet wide, from which some two or three thousand tons of rich ore has been taken. Last year some ten tons of it were sold to a gentleman in San Francisco, for fifty cents per pound, an extravagant price seemingly, yet it will not seem so when you are told that it yielded \$5,000 per ton throughout. The lowest ore worked from the surface yielded \$101 per ton. The richness of the ore is increasing as the lead descends. This rock is of a blue and grey cast, holding a great quantity of blue sulphurets, which are very rich in gold. The blue quartz is the richest, far exceeding the grey in yield. The company own 1,500 feet on the ledge. Rock is now being sacked, preparatory to being sent to Swansea. The superintendent of this mine is Mr. Warren Rose, an experienced miner from the silver leads of Nevada. The mill connected with the mine is owned by a separate company altogether, who crush by the ton. It is owned by Messrs. Goss & Lambert, of Sacramento. An outside view presents no very handsome appearances, as it is built of rough logs. The reason of this is, that at the time it was built no lumber could be obtained, the snow being ten or fifteen feet deep. On the principle that there is nothing in appearances, this mill will pass as a good concern. The frame-work inside is so constructed that the walls can be pulled down and constructed anew without interfering with the structure of machinery. The principal feature of interest in this mill is the New Enterprise Pulverizer, built by Mr. G. W. King, a gentleman of extensive experience in mining machinery. It consists of three large cast iron wheels $5\frac{1}{2}$ feet in diameter, of 3,000 pounds weight, attached to a perpendicular shaft, around which they revolve on a circular plate twenty-five feet in circumference. This rock, after being broken into small particles by Blake's rock crusher, is thrown into a hopper, which, by means of three feeding pipes, places the rock on the plate. After one revolution of the wheel the dust is scraped by self-acting scrapers into a receiver in the middle of the circular plates, from which elevators carry it to sieves, where it is bolted, the fine dust passing to amalgamators, and the coarser again to the hopper, to be crushed over. The inventor claims that these wheels will outcrush any 30-stamp mill on the coast. If such is a fact it will be one of the best inventions that could be possibly made, for the jar and wear of stamps

will be laid aside, and not one-tenth this power is necessary to drive them that would be required to drive a battery of thirty stamps. An engine of 5-horse power is all the power necessary for the pulverizer. The mill will be refitted with new amalgamators and other machinery during the summer, and be prepared to do constant work. The desulphurizer mentioned in the Press a few numbers ago, has been torn down and thrown out-doors as a useless concern. The amalgamators to be used are Wheeler & Randall's new pans.

Time and space forbids mention of more claims. As there are many ledges here that deserve notice, in my next I shall give them a chance. W.

Meadow Lake, June 21, 1866.

Bruckner's Mechanical Roasting Furnace.

This invention, which we have frequently mentioned before, is reported by one of the Nevada State papers, to be a success upon a practical trial. The following, published recently in the Virginia City Enterprise, gives a fair idea of the apparatus:

We paid a visit yesterday afternoon to the Central mill, in this city, for the purpose of seeing Bruckner's roasting furnace operate. This newly-invented furnace is simply a horizontal revolving cylinder, nine feet in length by three feet in diameter, and made of heavy boiler iron, with a fire-place at one end, from whence the heat passes through a flue into the cylinder and out at the other end. The charge of dry crushed ore for this furnace is 1,000 pounds, which is thoroughly roasted in the average time of three hours. The ore is introduced into the cylinder by means of a square hole in the side, and when completely roasted it is emptied out through the same aperture. By means of an inclined partition, placed diagonally along the center of the cylinder and nearly to each end of it, the ore is made to pass constantly from one end to the other while it is revolving, thus equalizing the heat, and consequently the roasting. The cylinder rests on a set of iron wheels at each end, and is made to revolve at the rate of about once per minute by means of cog gearing. This furnace has been in operation but a few days, but yet quite long enough to demonstrate it to be a perfect success. The heat, after passing through the furnace, passes into a condensing chamber of brick, by means of which wet ore can be dried. Thus, it is not requisite that the ore should be dry crushed for this furnace, which is quite a saving to the capacity and wear and tear of the mill stamps. Two men can attend to five of these furnaces easily in twenty-four hours, the amount of wood consumed during that length of time being only about three-quarters of a cord. The working capacity of the furnace is estimated to be from three to eight tons in twenty-four hours, according to the character of the ore. Wet crushing and amalgamating, without roasting, gives at present an average working yield of sixty per cent. of the assaying value, at a cost of fifteen dollars per ton, while the crushing, roasting and amalgamating process will give a yield of eighty per cent. of the assay value, at an additional cost of from five to eight dollars per ton. From the above it will be seen that forty dollar ores, and all of higher value, will pay for roasting. If this furnace performs all it promises—and we believe it will—it is destined to be an important auxiliary to the working of ores, and greatly enhance the yield of our mines. The furnace can be seen in operation at the Central mill by all interested in such matters.

DESULPHURIZING COAL.—Mr. Charles F. Denner, who for twelve years was the active agent of the Colt's Fire-arms Factory Company in New York, is about introducing a new method for the treatment of coal, which has been pronounced a decided success. The coal prepared by the new process, which is very simple and cheap, is said to be far superior to coke for melting iron, etc. A much hotter fire can be made with it than with coke. Cast-steel heated by coal thus treated has been welded without the use of borax or other ingredients. Pig-iron which has proved too hard, has been found to yield and produce as good work as turned out with some of the best brands of iron. Crystallized iron, after melting once or twice in a cupola with the desulphurized coal prepared by the new art, has been found to work exceedingly well. The whole apparatus and ingredients to treat 100 bushels of coal can be put up for from £5 to £10, and it is stated that 60 bushels prepared by this process give as much heat as 85 bushels of the best coal not so prepared. The coal burns with a bright and violent blaze, and for family use effectually gets rid of the smoky, smouldering fires, and substitutes one of a bright and cheerful character. To smiths' and manufacturing establishments, where large and strong fires are kept up, it is proposed to grant rights for usage at such low rates as to insure its general adoption, and do away in a great measure with the smoke nuisances that is so injurious everywhere.

Mechanical.

The Art of Soldering.

Soldering is the art of melting the surface of metals together by partial fusion, and the insertion of an alloy between the edges, which is called solder, it being more fusible than the metals which it unites. Solders are distinguished as hard and soft, according to their difficulty of fusion. Hard solders usually melt only at a red heat, but soft solders fuse at a lower temperature. In applying solder it is of the utmost importance that the edges to be united should be chemically clean—free from oxyd—and they should be protected from the air by some flux. The common fluxes used in soldering are borax, sal-ammoniac, and resin. Hard silver solder is composed of four parts of fine silver and one of copper, made into an alloy and rolled into sheets. It is quite difficult of fusion. Soft silver solder is composed of two parts of silver, one part of brass, and a little arsenic, which is added at the last moment in melting them. It will be understood that these alloys are commonly run into convenient bars or strips for use. Silver solders are used for soldering silver work, gold, steel, and gun metal. A nearer seam is produced with it than soft solders. It is commonly fused with the blow-pipe. A strip of thin silver solder is laid on the joint to be closed; the blow-pipe is brought to bear upon it, when it melts and runs into the joint filling it up completely. Button solder is employed to solder white metals, such as mixtures of copper and tin. It is composed of tin ten parts, copper six, brass four. The copper and brass are first melted, then the tin is added. When the whole is melted the mixture is stirred, then poured into cold water and granulated, then dried and pulverized in a mortar for use. This is called granulated solder. If two parts of zinc are added to this alloy, it makes a more fusible solder. Fine gold cut into shreds is employed as a solder for joining the parts of chemical apparatus made of platinum. Copper cut into shreds is used as a solder for iron. Hard silver solders are frequently reduced to powder, and used in that condition. Soft solder consists of two parts of tin and one of lead. An excellent solder is made of equal parts of Banca tin and pure lead. It is used for soldering tin plates, and, if well made, it never fails. The following is a useful table of solders with their fusing points:

No.	Parts of Tin.	Lead.	Melting deg. F.
1	1	25	558
2	1	10	541
3	1	5	511
4	1	3	482
5	1	2	441
6	1	1	370
7	1½	1	354
8	2	1	340
9	3	1	356
10	4	1	355
11	5	1	378
12	6	1	381
13	4	1 Elsmuth	320
14	3	2 1 "	310
15	2	2 1 "	262
16	1	1 1 "	254
17	1	2 1 "	236
18	5	3 1 "	202

The alloy No. 8 is used sometimes for soldering cast iron and steel; the flux used for this purpose is sal-ammoniac, but common resin may be employed. Gold and silver are sometimes soldered with pure tin and a flux of resin. Copper, brass, and gun-metal are soldered with No. 8 and a flux of rosin or sal-ammoniac. The chlorids of zinc is used for soldering sheet and plate iron as a flux with the same solder. Lead and tin pipes are soldered by plumbers with Nos. 6, 7, and 8, and a flux of resin and sweet oil. In soldering with soft brass, the ends of the articles to be soldered are secured together by a wire, and granulated solder and powdered borax are mixed in a cup with a small quantity of water, and spread along the joints with a spoon. The article is then placed in a clear fire, and the solder melts at a red heat, when the article is then removed from the fire. In soldering small articles with the blow-pipe, they are supported on a piece of charcoal, or, what is better, pumice-stone, and the flame is ejected upon this solder. In soldering lead pipes the parts to which the solder is not to be attached are usually covered with a mixture of lampblack and size. In soldering any article, care must be exercised to have the edges of the plates or articles perfectly clean, or the solder will not adhere. A flux is employed for the purpose of preventing oxydation. Resin and sal-ammoniac, powdered and mixed together, makes a good flux for copper and sheet-iron soldering. In other cases, a strong solution of sal-ammoniac is used to moisten the edges of the joint, then the resin is sprinkled upon it, and the solder applied. The chloride of zinc is made by dissolving pieces of zinc in muriatic acid. It is well adapted for soldering zinc plates and pipes, and is employed with a brush to moisten the edge of the article to be soldered. The solder is then applied in the usual way with a tool. Zinc is a very difficult metal to solder, because it is so easily coated with oxyd, and it also volatilizes with heat.—*London Chemical News.*

STEEL BOILERS.—Important experiments have been made in Prussia with steel boilers. Two boilers, each sixty-eight feet long by four in diameter, without flues, were placed side by side. One was made of steel plates half an inch thick, the other of iron plates of 0.415 of an inch in thickness. The steel boiler was tested by hydraulic pressures of 135 pounds per square inch. Both boilers were worked for about a year and a half under sixty five pound pressure. At the end of that time there was less scale in the steel than in the iron boiler. The steel boiler generated twenty five per cent. more steam, and evaporated an average of 11.65 cubic feet of water per hour; the iron evaporated 9.37 cubic feet. The quantity of coal consumed per twelve hours was 2,806 pounds for the steel and 2,972 for the iron boiler. The plates of the steel boiler directly over the fire, were found to be uninjured, while those of the other were worn out. The advantages of the steam boiler are strength, lightness, rapidity of evaporation, durability under heat, the security of more perfect riveting and comparative freedom from scale.

M. AUSTRE ACHARD, of France, has just been awarded the Montyon prize of the year for the discovery of his electric railway brakes. This apparatus places at the immediate disposal of the engineer on the locomotive complete control of all the brakes of the train at once. Without any assistance, and by aid only of a handle or winch and of an electric wire, he can tighten all the brakes in a second. It has been proved upon the Strasburg and Paris line, with trains going at eighty, ninety and even ninety-five kilometres an hour, this method will bring the train to a stop within a distance of two or three hundred yards, whereas the old method required twelve hundred yards to stop a train going at such speed. The electric brake is also in use in Belgium.

NEW AMALGAMATOR.—The Montana Post describes as follows a new amalgamator recently invented by William Cowie, of Montana: It consists of a horizontal cylinder, the upper half of which is provided with hinges, so that it can be drawn back when required for a clean up. Revolving, also, horizontally, through its entire length, is a shaft carrying plates arranged like an Archimedeal screw, and connected by floats which dash the contents of the machine against every part of the interior of the cylinder and of the plates. The whole of the amalgamator is made of copper, and the interior coated with quicksilver. The rotation of the shaft brings the quartz reduced by the stamps to pulp, in contact with successive amalgamated surfaces, ensuring, as far as mechanical action can, the complete saving of the gold. The tailings escape at the opposite end of the machine from that at which they enter fresh from the stamps.

FOR FASTENING BUTTONS.—The Portland Argus says that Capt. J. J. Boyd has secured a patent which will make a complete revolution in applying buttons to garments. By this invention buttons can be attached to any part of wearing apparel without the use of thread. The invention consists solely in making the button with a spiral wire to be inserted into the cloth like a corkscrew, and then pressed down flat so as to form a ring to hold the button in place.

"THE THUNDERBOLT."—A new sporting rifle, with the above euphonious name, has been recently perfected by Messrs. Howard Brothers, of New Haven, Conn., which is said to eclipse all similar fire-arms that have gone before. They are now manufacturing fifty per day. Their New York office is at 387 Broadway, where particulars can be learned, or a descriptive pamphlet can be obtained. The cost of the gun is twenty-five dollars.

NITRO-GLYCERINE was first prepared by Sombrero, about twenty years ago, in the laboratory of Pelouze, Paris. Its enormous explosive force was discovered at the same time, but the danger attending its preparation deferred investigators from entering the field of research, until Mr. Alfred Nobel had the intrepidity to introduce it on a large scale to the public as a substitute for blasting powder or gun cotton.

WHO FIRST USED COAL.—The Belgians claim to have been the first to discover the uses of coal; and this discovery, they say, was made by one Hullos, a blacksmith of the village of Plenevaux, near Liege, in the year 1049, from whose name they derive the word "houille."

A very simple invention was exhibited at the late Birmingham Cattle Show for making butter by atmospheric action, the air being forced by a plunger into the midst of the milk or cream, which is contained in a cylinder, the result being in a few minutes butter is made, leaving the milk perfectly sweet for family use.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Friday, June 29.

AFTERNOON SESSION.

5 shs Savage at 900@985 per foot.
 96 shs Ophir at 200@213 per foot.
 84 shs Ophir at 210 per foot, s 10.
 8 shs Chollar-Potosi at 175@183 per foot.
 5 shs Chollar-Potosi at 182½ per foot, s 3.
 4 shs Gould & Curry at 700 per foot, s 5.
 8 shs Yellow Jacket at 690@692½ per foot.
 20 shs Imperial at 106@105 per share, h 5.
 5 shs Imperial at 103 per share, s 3.
 14 shs Imperial at 107@102 per share, h 3.
 41 shs Overman at 24@24½ per ft.
 5 shs Bullion at 57 per share.
 5 shs Bullion at 57 per share, s 10.
 6 shs Confidence at 61 per share.
 \$5,000 Legal Tender Notes at 71½c.

Amount of sales \$ 18,624 00

Saturday, June 30.

12 shs Ophir at 215 per foot.
 60 shs Ophir at 217½ per foot, s 3.
 12 shs Ophir at 218 per foot, s 3.
 72 shs Ophir at 220 per foot.
 72 shs Ophir at 222½ per foot, s 3.
 12 shs Ophir at 215 per foot, s 30.
 12 shs Ophir at 215 per foot, s 30.
 36 shs Ophir at 216 per foot, s 30.
 48 shs Ophir at 220 per foot, s 10.
 12 shs Ophir at 220 per foot, s 10.
 12 shs Ophir at 222½ per foot.
 3 shs Chollar-Potosi at 185 per foot.
 3 shs Chollar-Potosi at 198 per foot, s 3.
 5 shs Chollar-Potosi at 192½ per foot, s 3.
 1 shs Chollar-Potosi at 193 per ft.
 4 shs Chollar-Potosi at 193 per foot, s 3.
 1 sh Belcher at 167½ per foot, s 3.
 1 sh Belcher at 155 per foot.
 1 sh Belcher at 170 per foot, h 30.
 1 sh Belcher at 155 per foot, e.
 1 sh Belcher at 155 per foot, s 3.
 2 shs Yellow Jacket at 692½ per foot.
 2 shs Yellow Jacket at 694 per foot.
 1 sh Yellow Jacket at 695 per foot.
 2 shs Yellow Jacket at 693½ per ft, s 3.
 1 sh Yellow Jacket at 700 per foot, h 10.
 8 shs Gould & Curry at 700 per foot.
 1 sh Savage at 900 per foot.
 10 shs Imperial at 102 per share.
 5 shs Imperial at 101 per share.
 10 shs Imperial at 103 per share.
 5 shs Imperial at 102 per share, s 10.
 8 shs Imperial at 103 per share, h 3.
 5 shs Imperial at 105 per share, h 15.
 45 shs Overman at 23 per share.
 3 shs Overman at 23½ per share.
 5 shs Lady Bryan at 1½ per share.
 5 shs Lady Bryan at 1½ per share.
 10 shs Lady Bryan at 1½ per share.
 1 sh Confidence at 65 per share.
 2 shs Confidence at 55 per share.
 10 sh Confidence at 61 per foot, h 30.
 20 shs Confidence at 60 per share, s 30.
 2 shs Confidence at 63 per share.
 1 shs Confidence at 64 per sh.
 \$1,900 U S 7-10 Bonds, June 1st, at 74c.
 \$500 U. S. 7-30 Bonds, June issue, 73c, h 3.
 \$15,000 Legal Tender Notes at 71½c.
 \$10,000 Legal Tender Notes at 71, s 30.
 Amount of sales \$ 51,636 00

Monday, July 2.

96 shs Ophir at 230 per foot.
 48 shs Ophir at 230 per foot, s 10.
 36 shs Ophir at 235 per foot.
 12 shs Ophir at 230 per foot, h 3.
 24 shs Ophir at 225 per ft, s 15.
 12 shs Ophir at 227½ per share.
 12 shs Ophir at 227½ per foot, h 5.
 5 sh Savage at 900 per foot.
 1 sh Savage at 900 per foot, s 3.
 5 shs Chollar-Potosi at 195 per foot, s 3.
 1 sh Chollar-Potosi at 194 per foot.
 13 shs Chollar-Potosi at 198 per foot.
 5 shs Chollar-Potosi at 205 per foot, h 30.
 5 shs Chollar-Potosi at 207½ per foot, h 30.
 3 shs Yellow Jacket at 700 per foot.
 1 sh Yellow Jacket at 705 per ft.
 1 sh Yellow Jacket at 710 per foot.
 1 shs Yellow Jacket at 715 per foot, s 3.
 6 shs Yellow Jacket at 720 per foot.
 1 sh Yellow Jacket at 720 per foot, s 3.
 1 sh Yellow Jacket at 720 per foot, h 3.
 3 shs Yellow Jacket at 715 per foot, s 30.
 1 sh Yellow Jacket at 719 per ft.
 1 sh Yellow Jacket at 723½ per foot.
 1 sh Yellow Jacket at 725 per foot, h 5.
 4 shs Gould & Curry at 705 per foot.
 1 sh Belcher at 170 per foot, s 3.
 1 sh Belcher at 177½ per foot, s 3.
 2 shs Belcher at 180 per foot, h 3.
 4 shs Crown Point at 825 per foot.
 4 shs Crown Point at 810 per foot.
 4 shs Crown Point at 805 per foot.
 10 shs Overman at 23 per share.
 11 shs Overman at 26 per share.
 10 shs Overman at 26 per foot, s 3.
 40 shs Overman at 26½ per share.
 19 shs Overman at 26½ per share.
 8 shs Overman at 27 per foot.
 5 shs Confidence at 27½ per share.
 1 sh Empirio M & Co. at 125 pr sh.
 5 shs Confidence at 60 per share, s 30.
 5 shs Confidence at 66 per share.
 5 shs Confidence at 62½ per share, s 30.
 6 shs Confidence at 67½ per share.
 3 shs Confidence at 70 per sh.
 10 shs Bullion at 62½ per share.
 5 shs Bullion at 64 per share.
 5 shs Bullion at 63 per share.
 5 shs Bullion, at 61 per share, s 30.
 \$5,000 Legal Tender Notes at 70½c, s 30.
 \$5,000 Legal Tender Notes at 70½c, cash.

AFTERNOON SESSION.

1 sh Yellow Jacket at 730 per foot.
 9 shs Yellow Jacket at 750 per foot.
 1 sh Yellow Jacket at 740 per foot, s 10.
 7 shs Yellow Jacket at 745 per foot.
 2 shs Yellow Jacket at 742½ per foot.
 2 shs Yellow Jacket at 747½ per foot.
 3 shs Belcher at 182½ per ft.
 2 shs Chollar-Potosi at 215 per foot, h 30.
 24 shs Ophir at 230 per foot.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, July 7, 1866.

A very active demand for money prevailed at the close of last week, with heavy offerings in Bank, and throughout this week applications for discount have been rather more numerous than is usual between Steamer days. The requirements of the merchants are still upon an extended scale, owing to a desire to remit cash while the rates of exchange are so favorable. Rates of interest rule at 1@1½ % cent. per month, with less doing at the former rate than for some time past.

Receipts of treasure from the interior show a material increase, and during the week have amounted to fully \$1,000,000.

The bullion market was left bare upon the sailing of the last steamer, and since then all desirable lots have been freely taken at full rates. Gold bars may be quoted at 870@890, and silver at 1@1¼ % et premium for average grades.

The exports of treasure from this port during the first half of this year amounted to \$23,407,728, not including \$4,500,000 sent East by the U. S. Sub-Treasurer in this city since January 1st.

Legal Tender Notes have been dealt in to the extent of some \$50,000, receding from 71½c to 70½c, then selling at 71c, and closing at 71½c, asked. Latest telegraphic advices from the East quote gold at 153 on the 5th inst.

Considerable sales of San Francisco 6 % Bonds of 1868 were made at 68½@69¼, closing at 70 asked. U. S. 7-30's were sold at 74, and are now held at 75. Spring Valley Water is a shade better, and sold at \$62 per share, closing at 62½ hid.

The mining share market gives evidence of some strength, and although continued apathy prevails, nearly all stocks have been dealt in at enhanced figures, closing less firmly, however. The aggregate yield of leading claims last month, embracing the Yellow Jacket, Gould & Curry, Savage, Crown Point, Hale & Norcross, and Imperial mines, amounted to nearly \$800,000. During no like period within a year past, have the bullion receipts of these companies been larger.

Hale & Norcross met with no sale this week, but is well held at about \$1,400 per foot. Advices from this mine are exceedingly favorable. A connection has been made between the 700 foot and 535 foot levels, giving conclusive evidence of the existence of a formidable body of ore throughout that distance. The vein of ore on the 535 foot level is now 30 feet wide, most of which, it is thought, will mill \$45@50 per ton. From partial returns, the receipts of bullion last month exceeded \$75,000, and the full returns for June will probably increase the aggregate to \$100,000.

Savage rose from \$900 to \$917½, dropped to \$910, and sold yesterday at \$900. During the week ending June 30th, 771 tons of ore were extracted, and 696 tons were shipped, a large proportion being second class ore. The northwest extremity of the ore deposit has been reached in the 6th station, but in following the lode to the south-east, a very good face of ore in the extreme end has been met with. The winze from the 6th level is down some 50 feet, and there is no particular change to note. Receipts of bullion for the month of June amounted to \$130,000.

12 shs Ophir at 227½ per foot.
 12 shs Ophir at 225 per foot.
 24 shs Ophir at 225 per foot, s 10.
 12 shs Ophir at 227½ per foot.
 12 shs Overman at 30 per share.
 20 shs Overman at 30½ per share.
 25 shs Overman at 31 per share.
 5 shs Overman at 31½ per share.
 30 shs Overman at 32½ per share, h 30.
 5 shs Overman at 34 per share.
 5 shs Overman at 35 per share, h 30.
 10 shs Overman at 36 per sh, h 30.
 10 shs Overman at 34½ per foot.
 15 shs Overman at 33 per share.
 5 shs Overman at 34½ per foot, s 3.
 5 shs Overman at 37 per foot, h 30.
 5 shs Overman at 37½ per share.
 10 shs Confidence at 70 per share, s 30.
 15 shs Confidence at 70 per share.
 5 shs Confidence at 71 per share.
 7 shs Confidence at 72 per share.
 33 shs Confidence at 73@74 per share.
 5 shs Confidence at 70 pr sh, s 30.
 5 shs Confidence at 74½ per sh.
 25 shs Confidence at 80 per share, s 30.
 10 shs Confidence at 75 per sh.
 9 shs Confidence at 75 per sh, s 3.
 10 shs Confidence at 80 per ft, h 30.
 10 shs Confidence at 78 per share.
 16 shs Confidence at 77½ per share.
 20 shs Confidence at 82½ per share, h 30.
 35 shs Bullion at 63@64 per share.
 10 shs Bullion at 64 per share, s 3.
 5 shs Bullion at 65 per share, h 30.
 10 shs Lady Bryan at 2 per share.
 10 shs Spring Valley W W at 62 per ct.
 \$2,600 Legal Tender Notes at 70½c.

\$5,000 Legal Tender Notes at 70½c, s 3.

Amount of sales \$ 82,143 00

Tuesday, July 3.

5 shs Chollar-Potosi at 210 pr ft, s 3.
 20 shs Chollar-Potosi at 210 per foot.
 21 shs Chollar-Potosi at 220 per ft, h 30.
 13 shs Chollar-Potosi at 212½ pr ft, s 3.
 2 shs Chollar-Potosi at 215 per foot.
 5 shs Chollar-Potosi at 214 pr ft.
 3 shs Chollar-Potosi at 213 pr foot.
 1 sh Chollar-Potosi at 212½ per foot.
 8 shs Chollar-Potosi at 211@212 pr ft.
 3 shs Chollar Potosi at 217½ per foot, h 30
 4 shs Chollar-Potosi at 211 per foot, s 3.

10 shs Chollar-Potosi at 215 per foot, h 30.
 1 sh Savage at 900 per foot.
 3 shs Savage at 907½@910 per foot.
 3 shs Savage at 917½ per foot, 12 d.
 2 shs Yellow Jacket at 730 per foot, s 30.
 3 shs Yellow Jacket at 747½ per ft.
 1 sh Yellow Jacket at 742½ per foot.
 6 shs Yellow Jacket at 745@735 per ft.
 84 shs Ophir at 230 per foot.
 24 shs Ophir at 230 per foot, s 3.
 36 shs Ophir at 225 per foot, s 30.
 12 shs Ophir at 225 per foot, s 15.
 36 shs Ophir at 231@234 per foot.
 24 shs Ophir at 234 per foot, s 3.
 1 sh Belcher at 160 per foot, s 3.
 2 shs Belcher at 185@187½ per foot.
 4 shs Belcher at 190@192½ per foot.
 3 shs Belcher at 195 per foot.
 8 shs Crown Point at 800@810 per foot.
 20 shs Overman at 43@45 per sh.
 35 sh Overman at 42½@43½ pr share.
 60 shs Overman at 41@40 per sh.
 20 shs Overman at 45 per share, h 30.
 5 shs Overman at 40 per sh, s 5.
 5 shs Overman at 40½ per sh, s 5.
 10 shs Overman at 45 per sh, h 30.
 30 shs Bullion at 63@67½ per share.
 7 sh Imperial at 106 per share.
 20 shs Imperial at 105 per share.
 34 shs Confidence at 75@78 per share.
 5 shs Confidence at 76½ per share.
 5 shs Confidence at 72½ per sh, s 30.
 25 shs Spring Valley Water at 62 per ct.
 \$3,000 San Francisco Bonds, 1853, at 62½.
 \$2,500 Legal Tender Notes at 70½c.

AFTERNOON SESSION.

5 shs Chollar-Potosi at 251 per foot, h 30.
 1 sh Chollar-Potosi at 210 per foot.
 12 shs Chollar-Potosi at 210 per foot, s 3.
 1 sh Savage at 910 per foot.
 24 shs Ophir at 240 per foot.
 1 sh Belcher at 187½ per foot.
 15 shs Overman at 45 per share, h 3.
 15 shs Overman at 45 per sh, s 5.
 70 shs Overman at 45½@45 per share.
 5 shs Overman at 46 per share, s 3.
 15 shs Overman at 52 per share, h 30.
 5 shs Overman at 47 per share.
 15 shs Overman at 47@47½ per share, h 3.
 45 shs Overman, at 48@49 per share.
 5 shs Overman at 50 per share, h 5.

Crown Point fell from \$900 to \$805, then sold at \$810. During the week ending July 1st, 683 tons second and 12 tons of first-class ore were extracted. The ground in the lower drift is said to show some improvement. The yield of this mine last month amounted to about \$105,000.

Gould & Curry has been sold at \$705@706, closing at \$750 asked. We have been courteously furnished with the general account of the operations and expenses of this company for the half year ending May 31st, from which we glean the following details: During that period 33,705 tons of ore were extracted, and 33,057 tons shipped and reduced, yielding in the aggregate \$908,119—the company's mill turning out \$667,712. The extraction of this ore cost \$3.06 per ton; prospecting and dead work \$2.04; accessory work \$1.67; improvements, etc., 79c per ton; total cost of production \$7.56 per ton. The total cost of mining last year was \$10.86 per ton. From the company's mill, for the six months ending as above, the average yield per ton was \$36.90 per ton, at a cost of \$13.57 per ton, the latter being upon the amount amalgamated. If reckoned upon the amount of ore crushed as is usual in Washoe, the cost per ton would be \$11.22, adding for hauling 90c, making \$12.12 per ton. The receipts of this company for the month of June amounted to \$146,000.

Yellow Jacket is in less favor, and nearly 200 feet were dealt in, advancing from \$692½ to \$760, and selling yesterday at \$742@692½. No authentic data can be obtained this week, owing to the delinquency of certain officials in Nevada, but the receipts of bullion for the month of June are supposed to be in excess of \$260,000.

Ophir has also been in more request, steadily advancing from \$215 to \$258, and selling yesterday at \$230. In sinking from the floor of the south end of the 9th gallery, it is thought that a very considerable body of ore has been met with.

Chollar-Potosi rose from \$185 to \$230, dropped to \$200, and then sold at \$187@192. The Piute Station continues to look well, and the ore found in that and the New Santa Fe Station, adds considerably to the general average throughout the mine. During the week ending June 30th, 861 tons of ore were shipped to custom mills. There is nothing especially new to report in the different drifts from the new shaft.

Belcher rose from \$165 to \$195, receded to \$190, and closed yesterday at about \$190@180.

Imperial is meeting with more favor, advancing from \$162 to \$110, and selling at the close at \$108@107½. Recent developments with Holmes' ground are said to be promising. Receipts of bullion for the month of June amounted to \$61,000.

Overman, owing to the discovery of a small body of very rich ore, has been quite active at higher figures, advancing from \$23 to \$77½, receding to \$54, and selling at the close at \$60. Confidence rose from \$55 to \$70, fell to \$55, and then sold at \$57½. The assessment of \$25 per share, levied June 25th, has been rescinded. Bullion was dealt in at \$67½@55, closing at \$55 hid.

The total aggregate sales of Stocks, Legal Tender Notes and Bonds, since Saturday last, amounted to \$346,886.

10 shs Overman at 49@47½ per share.
 50 shs Overman at 48 per foot, s 30.
 5 shs Sierra Nevada at 2 per share.
 5 shs Confidence at 80 per share, h 30.
 11 shs Confidence at 74@73 per share.
 1 sh Imperial at 105 per share.
 Amount of sales \$ 67,392 00

Thursday, July 5.

1 shs Belcher at 192½ per foot, h 3.
 5 shs Belcher at 190 per foot.
 2 shs Belcher at 192½ per foot.
 3 shs Belcher at 195 per foot, h 3.
 1 sh Belcher at 204 per foot, h 30.
 1 sh Belcher at 204 per foot, h 30.
 8 shs Chollar-Potosi at 210 per foot, s 3.
 1 sh Chollar-Potosi at 210 per foot.
 41 shs Ophir at 227@245 per foot, s 30.
 35 shs Ophir at 250@255 per foot, h 30.
 4 shs Ophir at 252½@250 per foot.
 5 shs Yellow Jacket at 750 per foot.
 4 shs Savage at 905 per foot.
 31 shs Imperial at 103 per share.
 10 shs Imperial at 103½ per share.
 10 shs Imperial at 104 per share.
 5 shs Imperial at 104½ per share.
 15 shs Imperial at 105 per share.
 5 shs Imperial at 105½ per share.
 10 shs Imperial at 118 per share.
 80 shs Overman at 62@77½ per ft.
 25 shs Overman at 70@65 per foot, h 10.
 20 shs Overman at 55 per ft, h 5.
 25 shs Overman at 74@72½ per ft, h 30.
 5 shs Overman at 60 per foot, s 30.
 25 shs Overman at 60@62½ per foot, s 30.
 10 shs Overman at 70@67 per ft, h 30.
 30 shs Overman at 65@62½ per foot, s 3.
 5 shs Bullion at 65 per share.
 5 shs Bullion at 63 per share.
 10 shs Bullion at 65 per share, h 10.
 5 shs Bullion at 62½ per share, s 3.
 1 shs Confidence at 70 per share.
 5 shs Confidence at 75 per share, h 30.
 5 shs Confidence at 76 per share.
 1 shs Confidence at 100 per share, h 30.
 10 shs Imperial at 110 per share, h 30.
 16 shs Imperial at 119 per share.
 7 shs Imperial at 110 per share.
 10 shs Bullion at 66 per share, h 30.
 \$10,500 S. F. Bonds, 1853, at 69½ per cent.
 \$500 S. F. 7 % cent Bonds at 78 per ct.
 Amount of sales \$ 76,638 00

Friday, July 6.

156 shs Ophir at 245@252½ per foot.
 36 shs Ophir at 250@255 per foot, h 10.
 96 shs Ophir at 240@220 per foot, s 30.
 276 shs Ophir at 240@245 per foot.
 17 shs Yellow Jacket at 742½@735 per foot.
 14 shs Chollar-Potosi at 181@190 per foot.
 2 shs Chollar-Potosi at 190 per foot, h 30.
 24 shs Imperial at 100@107½ per share.
 97 shs Confidence at 55@59 per share.
 63 shs Bullion at 61@60 per share.
 25 shs Bullion at 65@60 per share, s 30.
 9 shs Belcher at 180@187½ per share.
 175 shs Overman at 65@64 per share.
 Amount of sales \$ 50,398 00

AFTERNOON SESSION.

2 shs Belcher at 205 per foot, h 30.
 2 shs Belcher at 200 per foot, h 30.
 1 sh Belcher at 195 per foot, s 3.
 1 sh Belcher at 192½ per foot.
 3 shs Belcher at 190 per foot, s 3.

[From the Golden State Iron Works Pattern List and Book.]

TABLE OF THE VALUE OF GOLD DUST.

Directions how to use these tables, so that any one may tell the value of his gold dust or lumps, from a single grain to a thousand ounces: Suppose your gold is worth \$15 an ounce, and you have 25 ounces, 17 penny-weights and 22 grains, of which you wish to know the value: Looking down the column of weights opposite 25 to the column of ounces, you will find \$375.00 to be the value of the 25 ozs.; opposite 17 in the column of dwts., \$12.75 for the dwts., and opposite 22 in the column of grs., .857 millics, or 69 cents for the grs., summing up \$388.64, which is the whole value of the gold.

Weight.	AT \$14.25.			AT \$15.00.			AT \$16.00.		
	Gr.	Dwts.	Oz.	Gr.	Dwts.	Oz.	Gr.	Dwts.	Oz.
1	.030	.71	14.25	.031	.75	15.00	.032	.80	16.00
2	.059	1.42	28.50	.062	1.50	30.00	.067	1.60	32.00
3	.090	2.14	42.75	.094	2.25	45.00	.100	2.40	48.00
4	.119	2.85	57.00	.125	3.00	60.00	.133	3.20	64.00
5	.148	3.56	71.25	.156	3.75	75.00	.167	4.00	80.00
6	.173	4.27	85.50	.182	4.50	90.00	.196	4.80	96.00
7	.208	4.99	99.75	.219	5.25	105.00	.238	5.60	112.00
8	.236	5.70	114.00	.250	6.00	120.00	.275	6.40	128.00
9	.267	6.41	128.25	.282	6.75	135.00	.309	7.20	144.00
10	.297	7.12	142.50	.313	7.50	150.00	.333	8.00	160.00
11	.326	7.84	156.75	.344	8.25	165.00	.367	8.80	176.00
12	.354	8.55	171.00	.376	9.00	180.00	.400	9.60	192.00
13	.386	9.26	185.25	.400	9.75	195.00	.430	10.40	208.00
14	.416	9.97	199.50	.438	10.50	210.00	.467	11.20	224.00
15	.446	10.69	213.75	.469	11.25	225.00	.500	12.00	240.00
16	.475	11.40	228.00	.500	12.00	240.00	.533	12.80	256.00
17	.505	12.11	242.25	.532	12.75	255.00	.567	13.60	272.00
18	.535	12.82	256.50	.563	13.50	270.00	.600	14.40	288.00
19	.561	13.54	270.75	.594	14.25	285.00	.633	15.20	304.00
20	.591	14.25	285.00	.625	15.00	300.00	.667	16.00	320.00
21	.624	14.97	299.25	.666	15.75	315.00	.700	16.80	336.00
22	.653	15.69	313.50	.697	16.50	330.00	.733	17.60	352.00
23	.683	16.40	327.75	.731	17.25	345.00	.767	18.40	368.00
24	.712	17.12	342.00	.775	18.00	360.00	.800	19.20	384.00
25	.742	17.84	356.25	.800	18.75	375.00	.833	19.60	400.00
30	.871	20.90	427.50	.900	20.00	450.00	.933	20.80	464.00
40	1.148	27.84	570.00	1.200	26.00	600.00	1.267	28.00	640.00
50	1.425	34.78	712.50	1.500	30.00	750.00	1.567	32.00	800.00
60	1.702	41.72	855.00	1.750	35.00	900.00	1.833	36.00	960.00
70	1.979	48.66	997.50	2.000	40.00	1050.00	2.067	42.00	1120.00
80	2.256	55.60	1140.00	2.250	45.00	1200.00	2.333	44.00	1184.00
90	2.533	62.54	1282.50	2.500	50.00	1350.00	2.567	48.00	1280.00
100	2.810	69.48	1425.00	2.750	55.00	1500.00	2.833	52.00	1600.00

Weight.	AT \$17.00.			AT \$18.00.			AT \$19.00.		
	Gr.	Dwts.	Oz.	Gr.	Dwts.	Oz.	Gr.	Dwts.	Oz.
1	.035	.85	17.00	.037	.90	18.00	.040	.95	19.00
2	.071	1.70	34.00	.075	1.80	36.00	.079	1.90	38.00
3	.106	2.55	51.00	.112	2.70	54.00	.119	2.85	57.00
4	.141	3.40	68.00	.150	3.60	72.00	.158	3.80	76.00
5	.177	4.25	85.00	.187	4.50	90.00	.198	4.75	95.00
6	.212	5.10	102.00	.225	5.40	108.00	.238	5.70	114.00
7	.247	5.95	119.00	.262	6.30	126.00	.277	6.65	133.00
8	.283	6.80	136.00	.300	7.20	144.00	.316	7.60	152.00
9	.318	7.65	153.00	.337	8.10	162.00	.356	8.55	171.00
10	.354	8.50	170.00	.376	9.00	180.00	.390	9.50	190.00
11	.389	9.35	187.00	.412	9.90	198.00	.436	10.45	208.00
12	.425	10.20	204.00	.450	10.80	216.00	.475	11.40	228.00
13	.460	11.05	221.00	.487	11.70	234.00	.515	12.35	247.00
14	.495	11.90	238.00	.521	12.60	252.00	.550	13.30	266.00
15	.531	12.75	255.00	.563	13.50	270.00	.594	14.25	285.00
16	.567	13.60	272.00	.600	14.40	288.00	.633	15.20	304.00
17	.602	14.45	289.00	.637	15.30	306.00	.671	16.15	324.00
18	.637	15.30	306.00	.675	16.20	324.00	.713	17.10	342.00
19	.672	16.15	323.00	.712	17.10	342.00	.752	18.05	361.00
20	.708	17.00	340.00	.750	18.00	360.00	.792	19.00	380.00
21	.743	17.85	357.00	.787	19.00	380.00	.830	19.95	400.00
22	.778	18.70	374.00	.825	19.90	396.00	.871	20.90	418.00
23	.815	19.55	391.00	.862	20.80	414.00	.911	21.85	437.00
24	.851	20.40	408.00	.900	21.75	432.00	.950	22.80	456.00
25	.887	21.25	425.00	.940	22.70	450.00	1.000	23.75	475.00
30	1.084	26.60	510.00	1.125	27.00	540.00	1.167	27.50	574.00
40	1.425	34.78	690.00	1.500	30.00	720.00	1.567	32.00	760.00
50	1.766	42.96	870.00	1.750	35.00	900.00	1.833	36.00	800.00
60	2.107	51.14	1050.00	2.125	40.00	1080.00	2.200	42.00	840.00
70	2.448	59.32	1230.00	2.438	45.00	1260.00	2.500	44.00	880.00
80	2.789	67.50	1410.00	2.750	50.00	1440.00	2.833	48.00	920.00
90	3.130	75.68	1590.00	3.125	55.00	1620.00	3.200	52.00	960.00
100	3.471	83.86	1770.00	3.500	60.00	1800.00	3.567	56.00	1000.00

San Francisco Stock and Exchange Board.

	Bid.	Asked.
United States 7-10ths.....	\$ 74	\$ 75
Gov. Legal Tender Notes.....	71	71½
State Bonds, 7½ cent.....	85	87
San Francisco 10 cent.....	115	120
San Francisco Bonds, 1855, 6½ cent.....	62	70
San Francisco Bonds, 1858, 6½ cent.....	58	60
Sacramento City Bonds, 6½ cent.....	58	60
Sacramento County Bonds, 6½ cent.....	58	60
Marquette Bonds, 10½ cent.....	75	82
Stock Bonds, 10½ cent.....	80	85
Yuba County Bonds, 10½ cent.....	80	85
Little County Bonds, 10½ cent.....	70	80
California Navigation Co.....	34	55
State Telegraph Stock.....	33	55
San Francisco Gas Co.....	110	115
Sacramento Gas Co.....	60	75
Sprigg Valley Water Co.....	60	75

RAILROADS.	
Sacramento Valley Railroad.....	40 50
Oregonian Railroad.....	40 50
Central Railroad Co.....	46 50
North Beach and Mission.....	46 50

MINING STOCKS.	
Alpha.....	\$210
Baltimore American.....	55 57
Bullion, G. H.....	140 182
Confidence.....	57 53
Opbiter.....	220 225
Gould & Curry.....	75 75
Empire M. & M. Co.....	125 150
Savage.....	900 915
Chollar-Potosi.....	187 190
Hale & Norcross.....	1200 1300
White & Murphy.....	2 3
Sierra Nevada.....	692 700
Yellow Jacket.....	24 25
Overman.....	80 900
Crowa Pout.....	40 50
Antelope.....	40 50
Real del Monte.....	15 25
Buckeye.....	30 40
Dick Sides.....	22½ 25
Imperial.....	107 108

San Francisco Market Rates.

WHOLESALE PRICES.	
FRIDAY, July 6, 1866.	
Flour, extra, per bbl.....	5 50 @ 6 00
Do Superfine.....	4 75 @ 5 25
Corn Meal, per 100 lb.....	4 00 @ 4 50
Wheat, per 100 lb.....	1 50 @ 1 65
Oats, choice, per 100 lb.....	1 50 @ 1 60
Barley, per 100 lb.....	75 @ 90
Beans, per 100 lb.....	3 50 @ 5 50
Potatoes, per 100 lb.....	50 @ 55
Lard, Oak Wood, per cord.....	8 00 @ 10 00
Beef, on foot, per lb.....	6 @ 7
Beef, extra, dressed, per lb.....	12½ @ 15
Sheep, on foot, per lb.....	1 00 @ 2 00
Hogs, on foot, per lb.....	8 @ 9
Hogs, dressed, per lb.....	10½ @ 11

GROCERIES, ETC.	
Sugar, crushed, per lb.....	10 @ 14
Do China.....	10 @ 11
Coffee, Costa Rica, per lb.....	21½ @ 22
Do Rio.....	21 @ 22
Tea, Japan, per lb.....	90 @ 1 00
Do Green.....	70 @ 1 00
Hawaiian Rice, per lb.....	9 @ 10
Cacao.....	62½ @ 75
Cashew Nut, per gal.....	70 @ 75
Candies, per lb.....	15 @ 22
Rauch Butter, per lb.....	25 @ 35
Isthmus do.....	25 @ 30
Cheese, California, per lb.....	10 @ 14
Eggs, per doz.....	40 @ 42
Lard, per lb.....	16 @ 17
Ham and Bacon, per lb.....	18 @ 19
Shoulders.....	12½ @ 15

Retail Prices.	
Butter, California fresh per lb.....	45 @ 50
do pickled per lb.....	38 @ 40
do Oregon.....	35 @ 40
do New York, per lb.....	15 @ 25
Cheese, per lb.....	30 @ 40
Honey, per doz.....	40 @ 50
Eggs, per doz.....	22½ @ 25
Lard, per lb.....	12½ @ 15

HUTCHINSON'S
WINE AND CIDER MILL!

(PATENTED FEBRUARY 2d, 1863.)

FOR SIMPLICITY, COMPACTNESS, STRENGTH, ECONOMY OF
POWER, QUALITY AND QUANTITY OF WORK,
IT CHALLENGES COMPETITION.IT WILL CRUSH THE FRUIT PERFECTLY FINE AND NOT CRACK
A SEED, GRINDING TEN TONS OF GRAPES, BERRIES OR
TOMATOES, OR SIX TONS OF APPLES, PER DAY.

SOLE AGENT

FOR THE
PACIFIC COAST.

MANUFACTURED BY

WILLIAM B. KNOX,

At the GOLDEN STATE IRON WORKS,
19 FIRST STREET, SAN FRANCISCO.

Testimonial.

The "Scientific American," December 6th, 1862, in speak-
ing of this Mill, says:

"We have seen it at work, and can give personal testimony
as to its efficiency, having had it in operation in our office.
All the labor consists in turning the handle to grind the
apples into pomace or the grapes into must, as it is applied
to cider or wine manufacturing; the juice then flows, by the
combined operation of pressing and grinding, in a continuous
stream at the rate of a barrel an hour into the tub below."

Hams and Bacon, per lb.....	22½ @ 25
Crabapples, per gal.....	75 @ 1 00
Potatoes, old, per lb.....	10 @ 11
do New per lb.....	1½ @ 2
Tomatoes, per lb.....	6 @ 8
Onions, per lb.....	6 @ 8
Apples, No. 1, per lb.....	3 @ 8
Pears, isle per lb.....	8 @ 25
Plums, dried, per lb.....	20 @ 22
Peaches, dried, per lb.....	10 @ 11
Oranges, per doz.....	50 @ 55
Lemons, per doz.....	75 @ 80
Chickens, per doz.....	87 @ 1 12
Soap—Palm & C. O.....	8 @ 10
Castile.....	8 @ 10

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.	
FRIDAY, June 9, 1866.	
IRON.—Duty: Pig \$9 per ton; Railroad 60c per 100 lbs; Bar 101½c per lb; Sheet, polished, 3c per lb; common, 1½c per lb; Plate 1½c per lb; Pipe, 1½c per lb; Galvanized 2½c per lb.	
Scotch and English Pig per ton.....	50 @
American Pig per ton.....	50 @
Refined Bar, per assortment, per lb.....	3 @
Refined Bar, good assortment, per lb.....	3 @
Bolter No. 1 to 4.....	4 @
Plate No. 5 to 8.....	4½ @ 6
Sheet No. 10 to 13.....	4 @
Sheet No. 14 to 20.....	5 @
Sheet No. 24 to 27.....	5½ @
Cover.—Duty: Sheathing 3½c per lb; Pig & Bar 2½c per lb.	
Sheathing, Old.....	20 @ 30
Sheathing, Yellow.....	30 @ 32
Sheathing, Old Yellow.....	13 @ 14
Bolts.....	13 @ 16
Comp. Iron Nails.....	30 @ 32
Flat Plates.—Duty: 2½c per box.....	16 @ 17
Plates, Charcoal, 1½c per box.....	14 @ 15
Roofing Plates.....	12 @ 13
Bauca Tin Slabs, per lb.....	25 @ 27
Sheet.—English Cast Steel, per lb.....	12½ @ 15
QUICKSILVER.—Per lb.....	60 @

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the
MINING AND SCIENTIFIC PRESS and other San
Francisco Journals.]

NAME AND LOCATION.	AM'T OF ASSESSMENT.	DAY OF DELINQUENT SALE
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Mining Summary.

CALIFORNI.

Alpine County—

From the Silver Mountain *Bulletin* of June 23d, we clip the following items: The Balaclava vein is gradually increasing in thickness, and the ore improving. . . . The Pennsylvania are still cutting across their ledge, and are in some fifteen feet, without any indication as yet of a back wall. There is a portion of this ledge, called the "boulder strata," that yields by fire assay over \$600 per ton. . . . The Kohinoor company have been engaged, the forepart of this week, in constructing a road for the purpose of getting down ore to be worked. They are making good progress. . . . For the past two weeks Charles Uzay, Esq., assayer and metallurgist from San Francisco, has been testing ores from various ledges in our district, and the results obtained are, that we have three claims open, the ores from which yield by fire assay from \$250 up to \$467 per ton.

Amador County—

The *Ledger* of June 30th, says: The proprietors of the Coney lode at this place, have commenced sinking on their claim with very favorable results. As they go down the rock increases in richness and the vein widens. The rock they are now hoisting produces from a ton to a ton and a half of sulphurets per day, and these sulphurets are sold as fast as they are got out for one hundred and sixty dollars per ton, at the mill.

The *Dispatch* of same date has this item: We learn that Mr. S. W. Bright and others in this place, have found a very rich quartz vein near Scottsville, about a mile from Jackson. A shaft is being sunk on the lead, and the company will soon commence taking out rock for the purpose of having it crushed to test its worth.

Butte County—

The *Oroville Record* of June 16th, says: The work of erecting a mill on the Sherman ledge is now in progress and will be pushed to completion as rapidly as possible. The company have taken out and now have ready for crushing about 100 tons of rock.

Calaveras County—

The *Chronicle* of June 30th, says: Messrs. Gouldsen & Co's quartz mine, situated about one mile east of West Point, has proved to be one of the richest ever worked in Calaveras county. Eighty tons of rock from this claim, crushed at Smith's mill, yielded at the rate of one hundred and fifty dollars per ton, amounting in the aggregate to twelve thousand dollars. This amount of rock was taken from the mine, hauled to the mill and crushed, at an expense of less than eight hundred dollars, counting the labor of the owners, who are all working men, at four dollars per day for all labor performed.

The first lot of rock crushed from the new quartz mines at Railroad Flat, was taken from the Two Dollar Gulch ledge, and was crushed at the mill of Messrs. Harris & Co., at Sanby Gulch. Five tons of unassorted rock yielded at the rate of forty-five dollars per ton, and was taken from the mine at an expense of less than five dollars per ton. Add to this five dollars per ton for crushing and amalgamating in a mill at the lead, and a clear profit is realized of thirty-five dollars per ton.

Mr. Bevers' claim, at Rich Gulch, which has been worked by the last holders for three years past, only enough to hold it, promises to be extremely rich. He sunk a shaft two or three hundred feet from the old one, and at the depth of forty feet struck rock which astonishes every body in this region.

The San Andreas *Register* says: Mr. McGlynn has crushed five or six hundred tons of tailings for Wm. Mills, which are said to have paid about eight dollars per ton. He is now crushing some cement gravel, from an adjoining claim, which paid at the first clean-up, twenty dollars per ton. There is a large body of this gravel, and from present indications it will be a big thing.

El Dorado County—

The *Folsom Telegraph*, of June 30th, has this item: A short time since, T. Jenkins, and other Folsom miners, struck a very rich cement claim, at Weaver Hill, El Dorado county, that prospects from ten to fifteen cents to the pan. Already a tunnel is run in over one hundred feet. A mill is to be put up at once.

A quartz ledge near Clarksville, in El Dorado county, owned by E. G. Winchell and others, assays over \$200 per ton. The shaft is sunk fifty feet and quartz has been crushed for the past two weeks.

Humboldt County—

From the Trinity *Journal*, of June 14th, we clip the following: Irwin Davis Well, down 900 feet; have struck a small quantity of water. It is to be remembered that at this well they have not had any water down to this depth from its surface. . . . Jeffreys down 500 feet and upwards, with prospects rather improving. . . . The Ponner Farm, down 125 feet. Some say this company, at this considerable depth, have better prospects than the majority

of wells operated. . . . The Union Well yields a constant supply of oil, when pumped. We are not aware that they are any deeper than formerly mentioned.

The *Times* of 23d ult., says: The coal recently discovered near Areata, is stated by those who have tested it, to be of an excellent quality, fully equal to the best Cumberland coal. It ignites readily and burns freely.

Mariposa County—

The traveling correspondent of the *Flag*, writing from Hunter's Valley, says: "La Victoire, the most famous of the copper mines here, has a vein of ore which is, in some places, 160 feet wide. This mine is worth, perhaps, \$3,000,000; but it will not add much to the wealth of the State till the 'freeze-out' game now in progress shall be played out."

Nevada County—

The *Gazette* has the following items: M. W. Ross showed us some very handsome rock yesterday, taken from the Enterprise ledge, located some four miles above Omega, in this county. The rock is full of free gold and very rich and handsome sulphurets. . . . The mill at the Star Spangled Banner mine was started up again on Monday, having been stopped for some time for the purpose of putting in new pans. They have running now five Varney pans and two large settlers, and the ore is worked in the same manner as silver ore is worked in the mills at Virginia City. . . . On Saturday evening last, Robert Smith purchased of E. Henderson a one-eighth interest in the consolidated Wisconsin and Illinois claim, paying therefor \$8,000. Six weeks ago, an eighth interest in the same mine was sold for \$3,200. This claim is located near the Allison Ranch. . . . A waltzing or planetary pan, designed for the mill now being erected by the owners of the Eureka mine, at Grizzly Ridge, was taken out to the mill yesterday. . . . A conditional sale of the Prelus claims, at North Bloomfield, has been made for \$12,000. . . . Very rich specimens have been recently taken out of the quartz ledge in the rear of the National Exchange. Two or three shafts have been sunk, and the ledge traced a distance of about fifty feet. Three or four tons of rock has been raised to the surface, which we should judge would yield forty or fifty dollars a ton. It is called the Italian ledge. . . . The Star company have now commenced "breasting out," having backs sufficient to take out three or four hundred tons of rock. At the intersection of the tunnel with the ledge, they have commenced an incline, which will be opened and supplying rock by the time the above tunnel is exhausted. Men were sent up a few days ago to put the mill in running order, and when once started it is the intention to keep it running without interruption.

The Grass Valley *Union* says: From an ounce and a half of rock taken from the celebrated Stockton ledge, crushed in a common mortar yesterday morning, one dollar and seventy-five cents was realized. The rock was not selected, but taken promiscuously from a pile that lay on the ground. . . . We saw yesterday afternoon, at the office of Wells, Fargo & Co., three massive bars of gold, which had just been brought in from the Eureka mine. These bars or bricks were valued at ten thousand dollars each, and were the results of twelve days yield of that extraordinary claim.

The *National* has these items: Capt. S. W. Lee informs us that work at the Ophir mill has been suspended for a week or ten days, in order to make a change in the amalgamating pans and other repairs necessary. . . . The lone mine still continues to yield handsomely. The company are now working at a depth of about 170 feet below the surface of the ground, on the second level. They intend to go about thirty feet further down, when they will begin work on the third level. A gold bar worth \$5,000, was the result of two days' run of the mill. . . . A gold brick, valued at about \$6,000, was shipped yesterday, from the banking house of Findley & Co., the gold being the proceeds of a few days' run from the Socky mine.

The *Transcript* says: A new shaft, three by six feet has been sunk in the Big Blue ledge fifty-five feet, and is now opened into the old tunnel. A fine engine for hoisting and pumping is being put up, which will be completed in about three weeks. The company will then commence taking out rock. . . . Yesterday a splendid ledge was struck in the vicinity of Gold Flat. The rock from the croppings, shows lots of free gold, and it is estimated by those who have examined it that it will pay fifty or sixty dollars to the ton. It has been named the P. P. ledge. . . . S. F. Butterworth, Superintendent of the Almaden quicksilver mine; L. L. Robinson, of Pioche & Co., and a number of capitalists, have purchased several extensive gravel claims upon Humbug creek, near the town of North Bloomfield. One set of claims were purchased for \$200,000, and an adjoining set brought \$150,000.

The Dutch Flat *Enquirer* has the following in regard to the progress of cement mining in Little York township. During the time that Brown Brothers, of You Bet, have been run-

ning their mill, they have averaged about twenty-three hundred dollars for every ninety hours. Last week they cleaned up twenty-three hundred, yet there were occasions that they have realized as high as forty-five hundred for a little over four days and nights, and we believe never less than seventeen hundred since their mill was put in good running order. Niece & West are also doing a good business, their claim and mill being located near the Brown mill, and yielding equally as well, as are in fact all the mills engaged in crushing cement, either in the locality of You Bet, Red Dog or Indiana Hill, in our own county.

Excelsior.—The *Gazette* says: Five tons of Enterprise rock has been shipped to Swansea, on which the company received an advance in San Francisco of \$110 a ton, and five tons worked at the French mill in this place, which yielded \$700, besides the tailings. Twenty-four hundred pounds of the rock has been sold at the mine for \$1,322, or over half a dollar a pound.

The Meadow Lake *Sun* says it is estimated that there are now employed in the mines of that district over three hundred men, and it is confidently asserted that this force will swell to two thousand within sixty days.

Placer County—

The *Stars and Stripes*, of June 27th, says: A shaft sunk on the Boulder ledge, to the depth of fifty feet on the side of the hill, struck the ledge three feet wide about 130 feet below the croppings. The rock looks well, and the mine is one of the most promising in the Ophir district.

The *Herald*, of the 30th, has the following: Within a few weeks, four or five different locations have been made and companies organized, in this district, from one to two miles north of town, by Nevada county prospectors. The locators, who are all working men, and practical miners, are confident that this section of country offers superior inducements to quartz men.

Plumas County—

The Quincy *Union*, of June 30th, has these items: The Crescent Company, Indian Valley, are getting large returns from their mine. . . . The Preminn and Plumas are crushing rock in one of the Crescent Company's mills. This, also, is paying handsomely. . . . Judkins & Kellogg started the old Round Valley mill on Wednesday last. They crush rock from the Kittle ledge, which already shows well. . . . The Caledonia Company, on the extension of the Kittle, are crushing their quartz in the Dixie mill, and are getting good pay. . . . The Green Mountain ledge, in the same locality, is also paying well. . . . The Wiles mill is working quartz from the old Wiles ledge, with good success. . . . The Murphy & Company ledge, an extension of the Pennsylvania, was lately discovered, and shows a width of nine feet, and gold visible to the naked eye. . . . Waterworth & Trucks are running their mill on rock from their lower tunnel, with pay beyond their anticipations. . . . The Indian Valley Company are making better pay than ever heretofore. . . . Bidwell & Company have sunk a shaft on their Union ledge, an extension of the Indian Valley, two hundred feet deep, and will strike the ledge in a few days. . . . Bidwell, Meginnis & Co., are crushing rock from the Meginnis ledge, with fine success. . . . The Cosmopolitan Copper Company, at Geessee Valley, are within five feet of their ledge, already getting large lumps of rich copper sulphurets. . . . The Peacock Company are packing their copper ore to Chapman's Smelting Works, which will be fired up in a short time. . . . The Gifford Company were offered \$10,000 for five-sixths of their copper ledge, a few days since, which they refused. . . . Lovejoy & Jackson, Kelly & Co., and Bickford Bros., on Grizzly Creek placer mines, are all busy and doing well.

Shasta County—

The *Courier*, of June 30th, has these items: Four new lodes have been discovered and located in South Fork district. Two of them, the Cincinnati and Tewanau, show very rich. The first named is about fifteen inches wide, and shows good mineral clear across and down some three or four feet—as far as sunk. . . . The Chicago has been stripped over a thousand feet. For that distance, the ledge shows the same as when first opened. . . . The Mammoth mill will soon be running on rock from the Harrison lode, at Quartz Hill. There is already out fifty tons of first-class rock, from any of which good prospects can be obtained by the mortar and pan process.

Sierra County—

The Downieville *Messenger*, of June 30th, says: There is considerable excitement at Poker Flat, over a rich quartz lead lately discovered there. The ledge is called the Meredith, and although the rock shows no free gold, every ounce is shown extremely rich when once crushed. A large number of locations were made. . . . The Sailor company has a tunnel in some 75 or 80 feet. They will commence crushing in a few days. . . . The Lone Star, at Pine Grove, has lately got into a new range of pay that yields much richer than usual. One day lately one of the men found a small

boulder in which about an ounce of gold was visible, and on pounding it up, panned out one hundred and eighteen dollars and eighty-nine cents. . . . The first meeting of the Central Sierra Quartz Prospecting Association is to be held July 7th. The object of the Association is to further the quartz interests of the county in a more effectual manner than it is likely to be done by private enterprises.

The total amount which has been taken from the Eureka mine, 25 miles north of Downieville, is said to be over \$1,400,000.

Siskiyou County—

The Yreka *Union* says: The mines on Humbug are paying well. The miners have plenty of water, and have made some big "clean ups" lately.

A very rich lead of gold-bearing quartz has been discovered in Siskiyou county. Free gold can be seen by the naked eye in most of the rock. The average yield is \$600 per ton in gold and \$30 in silver.—R. B. Independent.

Trinity County—

The *Journal* of the 30th of June says: The Pony Creek diggings, at New River, are yielding rich returns. The two Portuguese miners, who bought the claim of O'Brien and McIlvane last winter, for \$1,200, have a regular daily income from it of fifty to sixty dollars. Our old friend Foulke is having a good time all to himself, in his claim, which is good for fifteen dollars a day.

Tulare County—

From the Havilah correspondence of the Mariposa *Free Press*, we gather the following items: Piper's mill has suspended operations for a time. . . . Several others in the vicinity are in successful operation. . . . The Piute district is turning out rich. . . . At Agua Caliente several parties are working with arrastras, among them, Tangate & Worthington, formerly of Mariposa. I visited the Joe Walker vein this morning. They are down 106 feet with their shaft, and have a good, well-defined vein, varying in thickness from three to seven or eight feet.

Tuolumne County—

The *Courier*, of June 30th, has these items: Less than five tons of rock taken from the Birchfield claim, near Uniontown, last week, yielded forty-two ounces. . . . The Excelsior mill is being put in prime order by Mr. Owen, who is adding another pan and settler. It will be running again in a few days. . . . The Sonora Gold Company's new mill, on Bald Mountain, started up on Thursday. Everything goes like a clock, and the proprietors express satisfaction. . . . The Old Mississippi claim, in Wood's Creek, has been improved in its working facilities by the erection of a derrick and water-power, for hoisting. This has been a rich placer claim. . . . The Mount Vernon mine has of late been "giving out" after the way and manner of the days of yore. Last week we saw ten pounds of retorted gold from this mine, which was obtained from thirteen tons of rock. Last Tuesday we saw thirteen pounds of the precious metal from the same source—the proceeds of fifteen tons of rock.

Yuba County—

Another engine of 60-horse power is to be added to the one of 30, already running in the works of the Jefferson company.

NEVADA.

Washoe—

The Gold Hill *News* of the 23d June says: The Yellow Jacket company, yesterday, in their north shaft—old works—at their 520-foot level, struck a most extraordinary and very rich deposit of ore, for the Comstock lode. Gold perforated, and was to be seen all through this rock, and its assay per ton must be enormous. . . . At the Union mill carpenters have been engaged for a long time in getting out, framing, and otherwise preparing the timbers for the new battery about being introduced in this mill. Twelve stamps are now worked, and for some time past the mill has been running on Chollar-Potosi rock. The crushing capacity of the battery is from twelve to sixteen tons per twenty-four hours.

Reese River—

The *Reveille* says: There is at this time but little doing at Silver Peak; but such a condition cannot long endure. There is ore here of the highest grade in surprising quantities, and easily attainable. I learn that the Grand Salt Basin company will soon commence building roasting furnaces, preparatory to starting their mill again, and expect before another year to lay the foundation for one of the most costly reduction works in the State, with tramways from the mines to the mill, involving an expenditure of from one to two millions. . . . The little 3-stamp mill at Red Mountain is again at work upon gold-bearing rock, averaging a yield of eighty dollars per ton. . . . The New York and Silver Peak company, it is said, are soon to commence operations upon their mill again, having purchased in San Francisco the machinery for a first class 40-stamp mill. . . . The Pioneer mill was to commence on July 1st, on ore from the Lee, Potomac, etc. . . . The machinery from the Richland mine had arrived. . . . The Asteroid has an incline down 150 feet, and three shifts of laborers are daily em-

played... The Stirling mill is at present idle. ... A short distance below the Stirling, upon the same creek, is the eligible mill-site of the New England and Nevada Silver Mining company. A number of men are at work grading for the foundation of the mill. The contract for building is already let, and it is expected to be in motion the coming autumn. It will have thirty stamps, three Wheeler pans, and two ransing furnaces. ... From Mr. Spron, who has just returned from White Pine, we learn that some important discoveries have been made upon the eastern slope of the mountains constituting the district—the first locations having all been made upon the western side. The ledges are two to four foot thick. ... The Uncle Sam is fully ten feet thick, two or three feet being extremely rich ore. ... Philadelphia District No. 3 will soon have a mill running at Belmont. Fuel and water are plenty. Col. Noel is now engaged in erecting the mill which he moved from Big Creek.

The Nye county *News* of June 23d has these items: An assay of ore from the New York ledge, Palmetto district, about twenty-five miles south of Silver Peak, gives \$50.22 in gold, and \$916.11 in silver, making \$966.33 per ton. ... Twin River district promises to be soon the most lively of any in the State. The Murphy company have a large force upon their mill and mine, and are pushing matters with all possible speed. We were shown some fine specimens of top rock, from a recent location made by Mr. Gillette, which is nine feet in width, and assays \$111 per ton. The Autocrat, also, is well spoken of.

Esmeralda—

The Union of 23d June, says: The Real Del Monte mill, during the past three weeks, has crushed a large amount of rock taken from several ledges in this district—also some five tons of tailings from the Wide West mill.

Columbus Ore.—A gentleman of this place has handed us a letter from a friend in Austin, which may be interesting to the mining community. He says, "2,400 pounds of ore were crushed dry in a 5-stamp battery of 500 pound stamps, in the short time of four hours and three-quarters. Samples of pulp taken every ten minutes, gave an assay from the Northern Belle lode of \$188.22 per ton. Samples of pulp taken from the Mt. Potosi lodes, gave an assay of \$95 per ton in silver."

Humboldt—

From the *Register* of June 23d, we clip the following: John C. Fall, Superintendent, dispatched, by Wells, Fargo & Co., Monday, two handsome bricks of bullion, as first installment of first dividend to the credit of the Pioneer & Inskip mining and mill company, of New York. The two bricks were 2,142 ounces in weight; were not assayed, but estimated at one dollar the ounce. An amalgam now in retort will yield about as much more—all which goes as a dividend to the Pioneer & Inskip.

Black Rock—

The evening *Tribune* of June 30th, says: From a private letter just received from a gentleman in Washoe City, we learn of the discovery of very rich quartz ledges near Black Rock, ninety miles northeast from Honey Lake Valley. A lot of 3,800 pounds yielded \$22.82 or about \$50 per ton. The other lots, which were worked at Dall's mill, yielded as follows: High Rock, per ton, \$217; Merrimack, test of 3,800 pounds, \$48.95; Monadnock, per ton, worked, \$256; Monadnock rock, per ton, assayed, \$358.50; Eureka, worked, \$157; Ruby, worked, \$200; Burmese, worked, \$147; Summit Sierras, worked, \$36; tin ore 42 to 82½ per cent.

ARIZONA.

The *Alta's* correspondent writes from Mohave City, June 14th: "In regard to the mines, prospects were never so bright as at present. The San Francisco district is taking the lead. Mr. Hardy is vigorously prosecuting work on the 'Parsons' lode, running two tunnels into the mountain through which the lode runs, one of which is now in 400 feet. The tunnels have already crossed small veins of quartz that are invariably rich. The Queen of the Pacific Company, on the same lode, are taking out some rich rock, that will work \$125 per ton, nearly all gold. Their tunnel is in 130 feet, and has struck the vein at a depth of fifty feet."

The Morse Association, of New York, are now developing the famous Moss lode; have about forty men employed, and will soon have the mine in a paying condition. They have about 250 tons of ore out ready for the mill, some of which is very rich. They have a shaft down 100 feet from the top of the croppings, and drifts running in different directions from its lowest depth—the one east, some twelve feet, discovers some of the finest specimens of gold-bearing quartz it has ever been my fortune to see. Bags of it have been shipped to their agent in San Francisco. This association has a quartz mill on the way, which is to be erected on the Colorado river, nine miles from the mine.

The Leland Company are running a bed-rock tunnel, and are now in 100 feet. ... The

Mitchell is about to have some of its croppings crushed. ... In the Intaba and Sacramento districts prospects are encouraging. ... Mr. George E. Willett, who is working the Techatieup mine in El Dorado Canon, informs me that he has erected a large quartz mill and other buildings, is putting in new engines and batteries, and making every preparation for crushing."

IDAHO.

The *Avalanche* says: Very rich ledges are reported to have been found recently near Quick-silver district, about eight miles distant and southeast of here. The Andy Johnson and Mayflower are more particularly noted. The latter is reported to be seven feet wide, and we have before us a certificate of an assay of the rock made by Chas. P. Robbins, which shows, silver, \$636.53, and gold \$1,255.81—total per ton, \$1,892.34. Other assays ranging from \$500 and upwards have been made.

MONTANA.

The *Post* of June 16th, says: Mr. J. Despeck, who has just come over from Helena, informs us that \$18,000 were washed from the claim of Judson & Metcalf, on Montana Bar, Confederate Gulch, in seven days, and that he saw \$4,000 carried away in a bucket from Smith & Barchett's claim, after a run of ten hours. ... We learn that mining at Wisconsin Gulch is progressing very favorably. The average pay was about \$25 to the hand. ... As the Fosters were sluicing down to the bed-rock, cleaning off the foundation for their mill at Summit, on the Mesler lode, they came across the blue clay seams which always indicate the proximity to a lode in this district; and pursuing their investigations, they found a fine ledge, three feet and six inches in width, and panning out well.

A correspondent of the same paper says: Speaking of quartz, we may mention that Col. Keyser has recently had ten assays made on the New York Extension of the Big, or Croesus, or Cliff lead, as you choose to call it—five of the assays averaging \$28, and five \$76 to the ton. ... Lettuce and radishes are in the market. We give this information for the benefit of those who think that Montana is a region of eternal winter. ... Steamer Big Horn, 71 days from St. Louis, had arrived at Fort Benton.

Letter to same, from New York Gulch, says: A number of claims on this bar are being worked, and will average about three hundred dollars per day to the hand. In Uncle Jonnie's Gulch about fifteen hundred feet of the lower end will average about twenty five dollars per hand. I have also had occasion to visit the bars below the mountains, on Magpie Gulch, which empties into the Missouri, just above the Canon Ferry. These bars are very extensive, and lie on each side of the gulch. They are from two to twelve feet deep and upwards. Some gold is found all through the gravel, which latter lies within a foot or two of the surface, and prospects, I am told by reliable miners, from one cent to ten cents to the pan. I saw some of the gold: it has a beautiful color, and is well washed. Several similar bars are being worked on Cave Gulch, about half a mile down the ravine, and with a small head of water yield twenty-five dollars per day to the hand. Up above the canon in Cave Gulch we understand the claims are turning out very well; the diggings are shallow and rich, but owing to the small amount of water, not half of the claims are being developed. The first dry gulch below Cave, known here by the name of Cooper's Gulch, is very rich, especially in its bars; \$5 and \$6.25 have been taken out, and all the gravel, which is about six feet deep, prospects largely. But no water can be had, and the distance to haul it is so great to make it profitable—at least it is so thought. In the drain ditch in Kingsberry Gulch, yesterday, they took out \$2.50 to the pan, with a beautiful wash. They work and wait patiently, but do not want to sell. ... They have just struck from five to twelve dollars to the pan in Boulder, below Diamond, on Nos. 5 and 6, below discovery. Judging from appearances, the gulches on the right bank of the Missouri river are just being opened, and will not, in the main, get in good working order before next season. ... Boulder is just drained, and opens remarkably well. If it "continues in well-doing," the prospects are bright. ... Confederate has but one drain ditch to the bed-rock, and is not prospected from rim to rim. ... White's has two drains, but the gulch is not yet prospected. ... New York has not any ditch down yet, but they have struck rich gravel, and are in hopes of soon reaching bed rock, and a streak of luck. ... Kingsberry is just sounded, and the ring is of the pure metal.

COLORADO.

The *Journal* of June 12th, has these items: Coming over through Clear Creek county yesterday we noticed that Mr. Sabin had started the Bullion company's mill. Also that Mr. McIntyre had commenced trying his super-heated steam experiment or enterprise. ... The Downville mill is running and good results are confidently anticipated from it. ... A new

mill is building just below Mill City. The Bertola men are hoping much just now from the use of the sodium amalgam in connection with the Bertola process. ... At Empire, Mr. Peck started mining last week, running 180 feet of water from his shaft in three or four days. ... At Argentine, mining has begun, notwithstanding the rough weather, on the very crest of the ridge. ... At Georgetown, too, several parties are commencing and prosecuting mining enterprise. ... Sixty has his springs at Ilhilo at last ready for use. Altogether the prospects of the county are considered by old residents brighter than ever before.

From the *Denver News* of June 13th, we clip the following: The mining season is opening with more promise in Colorado than for at least three years past. Particularly is this the case in the gulch, bar and placer diggings. More gold will be taken from the washing in Park, Summit and Lake counties during 1866 than in any preceding year. Dealers in merchandise tell us that their sales of gum boots and other similar articles for miners' wear, are larger than in any spring since '63. That year a very large portion of their sales were to Montana and Idaho adventurers. This year their sales are confined to the wants of Colorado. Lead mining will also be pushed more actively than for years past. ... The assays from nine different lodes in Red Mountain, belonging to the Union company, yielded an average of one hundred and twenty-five dollars per ton, the lowest assay being \$112 per ton. We are also creditably informed that a lode near the Twin Lakes, the location of which can be seen on the photographs of Twin Lakes, yields nearly \$1,000 per ton, about half silver. Assays from twenty Red Mountain lodes, made last fall by Behr & Keith, of Central City, yielded an average of over \$100 per ton.

From the *Register* we glean the following: Shipments of gold for the past week do not "pan out" as largely as usual on account of the difficulty of mining in consequence of the great annoyance of surface water. The heavy snow and rain storms of two or three weeks past, have created an unusual amount of water in several mines, and caused suspension of all work except pumping. The Narragansett company reports 81 ounces; John Sensenderfer, 83; The Gunnell Co. 142; the Black Hawk Co. 191; the Briggs Co. 143; Warren, Hussey & Co., about 50; Konitz Bros. 72; and Geo. T. Clark & Co. a small lot of about 15 ounces, making in all 777 ounces.

There was considerable excitement in regard to reported new discoveries on Bear River.

The *Journal* quotes the following from the *Stockholder* of May 22d: "Professor Hill, of Providence, R. I., has just returned from Europe, where he has been visiting the works for the reduction of ores. It is probably in pursuance of his suggestions that one of the great smelting firms at Swansea in Wales, which keeps in operation 150 furnaces, have sent out their agents (expected by steamer now due), to conduct investigations with a view to the establishment of smelting works in Colorado. It is found, remarkable as the result may appear, that from ores worked in Colorado with a gross yield of only \$10 per ton, the amount of \$500 per ton has been realized in the treatment at Swansea."

OREGON.

A clean-up of fifteen tons of White Bull rock at Quartzville yielded \$3,000.

The *Dalles Mountaineer* of June 15th says: The mines about Canyon City continue to pay well, particularly those of Olive Creek. Several rich strikes have been made, and the people of that locality think that Olive is the mining camp of this upper country. ... From persons who recently arrived from the John Day country we learn that there is a great scarcity of men in those mines. ... The recent rich discoveries on Olive Creek and the waters of the John Day, have nearly depopulated other camps in that district. The ruling rates for laborers is \$5 and \$6 per day. ... A quartz mill has been ordered for the Middle Fork District.

BRITISH COLUMBIA.

A private letter from William's Creek, Cariboo, says that times were never so brisk there, or money so plentiful. Canyon Creek is also spoken of highly.

The mining near Big Bend is favorable. ... Above the Canyon three companies are taking out \$20 per day on the surface, to the man, with rockers. ... About five miles above French Creek snow is three feet deep. The mining companies on the creek are making preparations for work. The Munroe company are taking out about one thousand dollars per day.

THE PULSE.—The pulse of healthy males beats eighty-one times per minute while they are standing, seventy-one times while sitting, and sixty-six times while lying down. That of a healthy female beats ninety-one times per minute while standing, eighty-four times while sitting, and seventy-nine times lying down. Any muscular activity in either of these positions will, of course, greatly increase the rapidity of the beats.

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It is impossible for editors to know ALL the merits and demerits of their correspondence, consequently the reader must not receive the opinions of our contributors as our own. Intelligent discussion is invited upon all sides and the evidence of any error which may appear will be received in friendship and treated with respect.

San Francisco:

Saturday Morning, July 7, 1866.

NEW VOLUME.

This issue commences the *Thirteenth Volume* of the MINING AND SCIENTIFIC PRESS. The third volume has just been completed since the first enlargement of the paper by its present proprietors, in January, 1864.

Our endeavors to improve the journal and keep pace with the advancing wants of the times, have been duly appreciated by an increased patronage. This, with other and more stimulating (but perhaps not more essential) encouragement, warrants us in promising a still better paper for the future. To our correspondents, our subscribers, and brethren of the press, who have assisted and encouraged us in our efforts, we return our kind acknowledgments.

Magic Photographs—How Produced.

Magic photographs, which are now among the most recent of our scientific toys, are of various kinds. The first and most common mode of producing them consists in placing an apparently common piece of blotting paper upon an apparently plain piece of white albumenized paper, moistening the two and producing at once a photographic picture. The explanation of this is simple, and is doubtless familiar to old photographic experimentalists. It consists in bleaching, until it is white and invisible, by means of bichloride of mercury, a silver print; then taking a piece of blotting paper which has been previously immersed in a solution of hyposulphite of soda, and placing it in contact with the immersed print; this, when moistened, at once darkens the bleached image, and a picture, consisting chiefly of sulphide of mercury, is produced. A still prettier application of parlor magic is accomplished by placing an apparently blank piece of paper into a solution—the material for which is inclosed in the packet—a beautiful blue print is produced. This is doubtless the result of one of the applications of the Cyanotype process of Sir J. Herschell, which may be made to produce many beautiful transformations. The *British Journal of Photography* gives the following method of producing the "magic photograph":

Print a picture on albumenized paper in the usual way, taking care not to print so deeply as ordinarily. Fix the print (without toning) in plain hyposulphite of soda, wash thoroughly, and then immerse it in a saturated solution of bichloride of mercury till the image disappears. Again wash thoroughly and dry. The paper now appears like a piece of plain albumenized paper, without any appearance of a picture on it, and in this condition it may be kept for an indefinite time.

To cause the image to appear instantaneously and in more than its pristine vigor, dip the paper in a weak solution of hyposulphite of soda; or, preferably, dip a piece of white blotting paper in a solution of hyposulphite of soda and dry it. This prepared paper may be kept in contact with the latent picture so long as moisture is excluded. When it is required to develop the image, moisten the blotting paper with common water and press it against the albumenized surface of the print, when, presto! the "magic photograph" is produced, and is, when well washed, as permanent as many of the photographs of the present day. The image, by being again immersed in the bichloride of mercury solution, may be once more rendered invisible, and by the hyposulphite solution again restored as often as may be desired.

The amusement that can thus be introduced into the social circle by the "magic photograph" may be easily conceived.

CORBETT'S ROASTING FURNACE.

In our issue of April 7th, we copied an article from the *Reese River Reveille*, giving a brief description of a newly devised apparatus for roasting sulphurets. We yesterday received a call from Mr. Corbett, the inventor, who submitted to our inspection diagrams of the apparatus and a working model, which has been in operation about one month at Austin, two weeks of which time it was constantly at work.

The apparatus may be described substantially as follows: First, a cylindrical shaped hearth of brick is constructed, with a furnace arranged as in the ordinary manner of a reverberatory furnace. Through this furnace longitudinally, passes a hollow rock shaft, with two sets of hollow arms supporting two paddles or shovels, much as the floats of a steamboat wheel are secured. The shaft, arms and floats or shovels are all hollow, steam tight and in communication the one with the other. The floats are placed in a position diagonal to the shaft with a curved face, instead of being in a line with the shaft, as in the steamboat wheel, the object of which arrangement will soon appear. The ore is placed in the cylinder to the depth of twelve inches, more or less. A charge for a furnace twelve feet long and eight in diameter, is about four tons. The shaft is made to rock back and forth, by which the floats or shovels are made to thoroughly stir the entire mass and lift up the lower portion of it at each forward movement, raise it to near the top of the cylinder, and thence drop it gradually through the flame and air current, which is kept constantly passing through the cylinder.

To protect the iron of the shaft and stirrers, a stream of cold water is made to pass in at one extremity of the shaft, alternately filling and being emptied from the arms and shovels, while the steam generated is caused to pass out through a proper aperture at the opposite extremity, from whence it is conveyed to a steam drum upon the top of the furnace or to a boiler conveniently placed for receiving it, and from whence it can be applied to driving an engine. It is claimed that the constant influx of cold water will keep the iron at a temperature sufficiently low to prevent any very rapid action of the sulphurous gas upon the same.

The discharge, which is self-acting, is made from a proper opening near the bottom of the hearth, which can be opened and closed while the machinery is in motion, and is so arranged that a jet of water can be applied in such a manner as to prevent any dust from rising. The roasted ores are received into an iron car, in which they are conveyed directly to the amalgamators.

Mr. Corbett's plan seems worthy of the earnest attention of all concerned in milling and mining. He has shown us testimonials from a large number of millmen and superintendents about Austin, who express themselves highly pleased with the action of the model which he constructed and operated there. He claims for his invention efficiency and economy, and that while it possesses these qualities its cost will not be as much as those of the ordinary construction, from the fact that, according to his calculation, it will require from five to eight ordinary furnaces to do the work which he expects one of his will accomplish.

With his furnace, and the labor of three men and the consumption of three cords of wood, he expects to desulphurize twelve tons of sulphurets per day, at a cost of \$42—Reese River prices. The cost of desulphurizing that amount of ore at Austin, by the furnaces now in use, is about \$136.

To this saving must be added any benefit which can be obtained from the use of the steam generated. This he also claims will be very considerable; as the boiler can be set directly over his hearth and made to form the crown of the same, while it is at the same time receiving the steam from the stirrers as fast as generated there. Of course the water has to be pumped into the rock shaft axle, the same as into a boiler.

The stirrers will be made of cast iron, and can be replaced as often as necessary, for a cost of about \$200; which will be but little more than the cost of scrapers by the present process. Mr. Corbett can be seen every day, from 9 till 12 A. M., at Mr. Linforth's office, corner of Front and Market streets; where he will be happy to exhibit his diagrams and the model which he has had in operation at Austin.

New California Patents.

List of Patents, with claims attached, which have recently been issued to inventors on the Pacific Coast; most of which were taken out through the MINING AND SCIENTIFIC PRESS PATENT AGENCY:

DRILL FOR ARTESIAN WELLS.—Henry Palmer, San Francisco, Cal.: I claim a double-edged drill, cutting at the upward, as well as at the downward stroke, or blow, with beveled shoulders, or upward cutters inclining equally upon the adjacent planes, and at right angles with the stem, substantially as and for the purposes specified and set forth.

NEWSPAPER FILE.—J. W. Foard, San Francisco, Cal.: I claim the short recess at the bottom of the file, in combination with the movable nut whereby the hinge is operated, the latter enabling one to adjust the file at that end to any desired thickness of paper.

PROCESS IN REFINING SULPHUR.—Robert Oxland, San Francisco Cal.: I claim the use of chemical agents in the manner hereinbefore described, either in substitution of the ordinary process of sublimation for refining sulphur as supplementary thereto, for the completion of the refining operation.

APPARATUS FOR RAISING WATER BY WAVES.—A. N. Shattuck, San Francisco, Cal.: I claim the buoy pump made to act by the agitation of the water, substantially as above described, consisting of a floating vessel, A, its tube, B, combined with a fixed tube, C, both tubes being provided with check valves, and the floating vessel, A, being guided in any suitable frame, as above set forth.

CAGE FOR HOISTING PURPOSES IN MINES.—Henry Berry, Hugo Hochholzer and Frank Denver, Virginia City, Nevada: First, We claim the adjustable arms, A, A, india-rubber springs, K, K, or their equivalents, together with the head-piece, B, pillow, E, and beveled shoulders, L, L, in combination with the large arms, F, F, and guides, G, G, substantially as described for the purposes set forth.

Second, We claim the cap, C, C, hung on hinges in combination with the braces, c, c', and head piece, B, substantially as described and for the purposes set forth.

MACHINERY FOR SEPARATING METALS FROM ORES.—John A. Hitchings, Denver City, Colorado: I claim, First, The arrangement of the mortars, rounded stumps, and slotted connecting openings, substantially as and for the purposes set forth.

Second, The arrangement as a sequence to the subject matter of the first claim, of the rollers, N, in the trough for the further comminution of the ore received from the stamps.

Third, A basin-shaped revolving roasting plate, Fig. 4, provided with scrapers as described, and with a vessel containing salts of soda, allum or potash, which are intermingled with the ground ore.

Fourth, The arrangement, with the revolving roaster, of the cold water tank which receives the heated ore therefrom, as described.

Fifth, The arrangement of the roasting plate, cold water bath, amalgamator, and arastra, as described.

Sixth, The quicksilver-coated copper amalgamator, acting as a final means of arresting non-mercurialized metals, arranged and operated as described.

Seventh, The condenser arranged as described, consisting of the flue, Z, passing through the water chamber, the discharge pipe, h, and the chamber, b, the shower bath, c, and exit flue, f.

Plow.—John Mott, Danville, Cal.: I claim, First, As a new invention, the use of a double plow revolving upon a horizontal axis, L, the two plows being placed one over the other in an inverted position, substantially as described and for the purpose set forth.

Second, I claim the claps, M and N, for hinging the main rod, L, to the standards, C and I, and the adjustment with washers, or their equivalents, of the claps, N, for turning the plow more or less to land, substantially as described.

Third, I claim the set-screws, s, s', placed in the upper end of the standard of the plows for steadying them and keeping off the land side from the standard, J', substantially as described.

ANIMAL TRAP.—A. A. Fradenburg, Nevada City, Cal.: I claim, in traps for vermin, the combination of the grating, D, on the platform, P, with the revolving door, E, the stops, N and F, substantially as shown.

APPARATUS FOR LOWERING SHIPS' BOAT.—Samuel Brown and Leon Level, San Francisco, Cal.: We claim a breaking block for running out even lengths of two or more ropes having an extra set of sheaves, c, which are capable of being moved to and from the real sheaves, a, by a breaking lever, F, the different sets, a, c, of sheaves being secured rigidly to their pins, b, d, substantially in the manner and for the purpose set forth.

METHOD OF BLASTING.—Nirum Cadwallader, Birchville, Cal.: I claim the use of compressed air in combination with all explosive substances, for the purpose of increasing the

explosive force of said substance by the aid of a greater amount of oxygen, and assisting by the force of pressure, as well as by the expansion of the air from the heat generated by the explosion, said compressed air to be confined in a chamber or recess contiguous to it, to be let free at the time the explosion takes place, substantially as described and for the purpose set forth.

COIN HOLDER.—Norbert Landry, San Francisco, Cal.: I claim the arrangement of coins and medals upon a vertical inclined or horizontal axis, between or upon transparent substances, to be revolved, at pleasure, for the purpose of displaying said coins or medals, substantially as herein described and set forth.

SWIVEL SHACKLE.—Thomas B. Roach, Folsom, Cal.: I claim the swivel shackle, constructed substantially as herein described.

LIST OF OFFICERS OF CORPORATIONS AND MINING COMPANIES.

[PUBLISHED IN THE FIRST ISSUE OF EACH MONTH.]

[Below we give the date of recent meetings held in this city, and the names of officers chosen or appointed. Every bona-fide company is invited to send us the result of their election, to be thus put on record, gratuitously, with any other facts of general interest.]

IMPERIAL S. M. Co.—June 26th. Trustees: John Sime, W. B. Bourn, F. P. McMahon, John Barton, Wm. H. Gawley, H. F. Cutler, J. E. de la Montagne. President, Wm. B. Bourn; Vice President, J. E. de la Montagne; Secretary, D. A. Jennings; Superintendent, P. S. Buckminster.

LADY OF THE LAKE G. & S. M. Co.—July 2. Trustees: R. J. Trumbull, S. W. Dennis, W. Hollis. President, R. J. Trumbull; Secretary and Treasurer, Wm. Hollis; Superintendent, Alonzo Young.

LELAND G. & S. M. Co.—July 2d. Trustees: R. J. Trumbull, S. W. Dennis, Wm. Hollis. President, R. J. Trumbull; Secretary and Treasurer, Wm. Hollis; Superintendent, Alonzo Young.

MINA RICA DE LAS FLORES M. & M. Co.—June 9th. Trustees: Mullot sine, L. Pouzadonx, B. Pasquale, J. Merle, L. Blanchard, A. Enqvist, C. Gailhard. President, Mullot sine; Secretary, S. Dickinson; Treasurer, A. Borel; Superintendent, A. Bonglival.

MORNING STAR G. & S. M. Co.—June 20th. Trustees: D. S. Shute, S. A. Winall, O. Dickinson, Jr., N. C. Efford, A. G. Soule, H. J. McMurray, F. M. Conro. President, F. M. Conro; Secretary, Chas. S. Capp; Treasurer, S. A. Winall; Superintendent, J. C. Ransom.

PACIFIC G. & S. M. Co.—May 21st. Trustees: A. P. Stanford, E. J. Sawyer, D. B. Arrowsmith, H. R. Reed, L. B. Lott. President, A. P. Stanford; Secretary and Treasurer, H. R. Reed.

SALAMANDER G. & S. M. Co.—May 21st. Trustees: E. L. Roesing, Wm. Jackson, Dr. O. P. Warren, John Speckmann, Jas. McComb, G. W. Smith, and F. D. Gallagher. President, G. W. Smith; Secretary, E. J. Pfeiffer; Treasurer, Wm. Jackson.

SISKIYOU M. Co.—March 12th. Trustees: Jas. T. McDougall, Elander Heath, Richard Strothoff, Albert Farrar, Wm. Nagel. President, Elander Heath; Secretary, E. J. Pfeiffer; Treasurer, Henry Pledge.

SOSHONE S. M. Co.—June 13th. Trustees: Henry Carlton, Jr., Henry W. Cleaveland, J. W. A. Gilnor, Stephen R. Harris, David Wilder. President, Henry Carlton, Jr.; Secretary, David Wilder; Superintendent, M. J. Goodyear.

RECENT INCORPORATIONS.

ANTIOCH PREMIUM PET. Co.—Contra Costa Co. Capital stock, \$1,600; 400 shares; \$4 per share. Trustees—C. J. Dempster, Benj. B. Grove, Geo. W. Brown, Fred. Wilkening, T. O. Carter. June 22.

CAL. MEDICAL ASSOCIATION.—Capital Stock, \$20,000; 80 shares; 250 per share. Trustees: Edward Cohen, E. Parsons Fish, and J. Alvin Cook. June 16.

FORTY ASSOCIATES HOMESTEAD ASSOCIATION. Capital stock, \$12,000; 40 shares; \$300 per share. Trustees: John W. Farren, Edward Barry, D. A. McDonald, Thos. J. Dixon, Geo. McDonald, Wm. Sulton, Allen H. Bewley, Thomas Pollard, Wm. Hollis. June 18.

JOICE PETROLEUM OIL Co.—Bolinas, Marin county. Capital stock, \$120,000; 1,200 shares; \$100 per share. Trustees—Geo. Hearst, R. P. Hammond, Wm. T. Daly. June 8.

MERCHANTS' EXCHANGE ASSOCIATION OF S. F. Capital stock, \$250,000; 2,500 shares; \$100 each. Trustees: Thomas H. Selby, Louis McLane, Richard G. Sneath, Alvinzo Hayward, J. W. Stow, David Stern, and J. B. Cavalier. June 1.

SAN FRANCISCO STOCK BREWERY.—Capital stock, \$200,000; 2,000 shares; \$100 per share. Trustees: Theo. Meetz, J. P. Waterman, R. Shnlize, Wm. Erygruber, Peter Mayer, Fred. Burns, H. Hoster, Herman Wendt and Fabian Jost. June 21.

VERITAS G. & S. M. Co.—Nevada county. Capital stock, \$600,000. Trustees: Alex. Gamble, S. C. Bowley, Geo. Wallace. June 13.

Hungerford's Improved Concentrator, for Saving Gold, Sulphurets, Quicksilver, Etc.

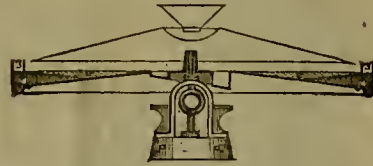
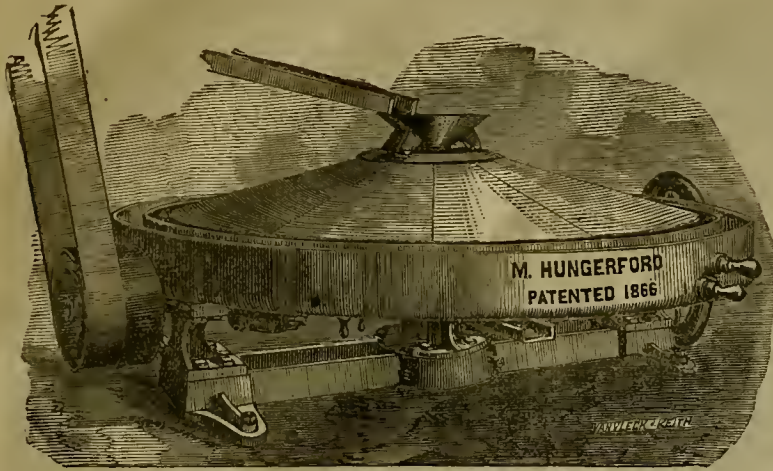


Fig. 2.

There is no description of machinery of so much importance to the mining interest of California, at the present time, as that for the separation of sulphurets. Mines are now abandoned, or, what is worse, paying assessments which, if the sulphurets were saved, would yield handsome dividends. Great difficulty, owing to the varied form and character of the sulphurets, has been experienced in devising a machine to separate them, and it is only by close and patient observation, persevering study and careful experiment, that any machine can be made or matured so as to save a high percentage of the sulphurets which are in the ore. No machine is so perfect as to save all; and the best is that which will save most with the least expenditure of time, money and power. Many machines have been tried, and many abandoned; all of which have been unable, so far, to attain a profitable separation, and meet the requirement of the mining interest, so well as that now patented by Mr. Hungerford, which is an improvement on the well-known Hungerford & Prater Concentrator, with which his name is already so familiar.

The separating or concentrating action is obtained by centrifugal force and gravitation; the pulp being preserved by water in the proper condition for the operation, and the pan so constructed, mechanically, as to allow the centrifugal force and gravity to expend themselves to the best advantage in producing the separation, as well as to make the machine simple, compact and easily kept in order.

Fig. No. 1 is a perspective view of the Concentrator while in operation, showing the general arrangement. Fig. No. 2 is a section through the centre of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

Its operation is as follows: The pulp flows from the spout through the filler into the bowl at the top, from which it is distributed equally over the convex cover into the pan near its outer edge. The lightest sand is at once carried off with the overflowing water through the centre opening, and the sulphurets are allowed, from the motion given to the machine, to gravitate to the bottom toward the outer edge, forming an embankment all around the pan, as represented at I, I, Fig. 2. The lighter particles of the sand arranging themselves on the top, at 2, 2, Fig. 2, from which they are being constantly washed away with the water flowing through the central opening. The sulphurets are, by the centrifugal motion of the machine, made to pass through small openings at the bottom, at intervals of a few inches around the circumference, through the inner wall of the pan to the circular trough 3, 3, Fig. 2, where they come in contact with the mercury at the bottom,

depositing the free metal, from which it is drawn at pleasure by an opening in the bottom, and the sulphurets, in the order of their density, by openings in the sides.

It will be observed that the sulphurets in the trough, 3, 3, are maintained at the same elevation as the sulphurets and overlying sand in the body of the pan. It will be further observed, that by no possible means can the sand in the latter pass to the former in such quantities as to form any considerable percentage of the amount saved. The advantages of this improved pan are continuous action, requiring no attention except to remove the receiving vessels as fast as they are filled from the openings shown on the right of Fig. 2, simplicity in construction, and durability and cheapness of cost.

The pan derives its motion from two eccentrics secured on a horizontal shaft passing across and below the centre of the pan and working between two pair of adjustable wooden guide blocks or hearings. The eccentrics are so made as to hear equally on the wooden guide blocks in all positions while in motion; giving to the pan the most desirable motion for its purpose, and doing away with all complexity of rods, cranks, wooden frame, etc.

Recommendations.

"Tell Mr. Hungerford that his machine is worth its weight in gold. I have proved, by actual test, that it will pay for itself every five days, running on the Vulture rock. I found that it yielded nearly \$1,000, out of 120 tons, and then it was forced beyond its actual capacity. There is no doubt about its utility, and every quartz mill operator in this section, and all other quartz-mining localities, will find them an absolute necessity."

J. TYSON.

"Dated Wickenburg, Cal., January 2, 1866."

"SONORA, September 24, 1864.

"We have been using one of Prater's Concentrators, at our mill, with the most signal success, for some months past. The yield of the rock at our mill is about \$45 per ton, while rock from the same ledge crushed at other mills not using this Concentrator, is yielding but \$25. The sands from the batteries in our mill are received from the stamps direct into the Concentrator, which effectually separates all the gold, amalgam, and sulphurets from the rock, with the above results."

"WHEELER & THAYER."

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

M. HUNGERFORD,
MINERS' FOUNDRY, FIRST STREET.

Those interested in mining, and who call at the Miners' Foundry to see the one which is there in operation, will have no reason to regret their visit.

SAN FRANCISCO, June, 1866.

THE GOLDEN STATE IRON WORKS.—Messrs. Palmer, Knox & Co., proprietors of this foundry, have just issued their "Pattern List and Hand Book," a really handsome and valuable work for miners and millmen. Their list shows an extensive and varied assortment of patterns. The book is intended for gratuitous circulation among the friends and patrons of the publishers. It forms a very liberal offering. Printed at the Mining and Scientific Press Book and Job Office.

TOWNE & BACON, Print—
Stock Certificates,
Assessment Receipt Books,
Transfer Journals,
Circulars,
Hand Bills,
Cards,
Billheads,

And every kind of Job Work that may be desired.
A NEW ARTICLE OF TAGS FOR GROCERS' USE.
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And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the MINING AND SCIENTIFIC PRESS.

OIL! OIL!! OIL!!!

—OUR—

MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

Dell, Cranna & Co.,

511 1-2 and 513 Front street, San Francisco
IMPORTERS OF

COAL OILS AND LAMP STOCK.
21v12-3m9p

Rheumatism !!

READ IT! READ IT!!

H. BOWMAN—DEAR SIR: THIS IS THE FIRST WRITING I have done in two years, and it affords me great pleasure to be able to use my pen in the service of those who are suffering, as I have suffered, by stating the following facts:

I have for two years and upwards been afflicted with CHRONIC RHEUMATISM, and until a few weeks ago I have never found anything that afforded me any relief. For three months of the time I was unable to feed myself, and for the last five months my arms have been so bent that I have not been able to dress myself. I was five months at the Warm Springs, at San Luis Obispo, and three months at a Hydropathic Institute in Stockton, and I have been under the care of six different physicians, in the vain hope of relief. About four weeks ago I was induced by a person who had been cured by it to try a bottle of RICHARD'S REMEDY FOR RHEUMATISM, and in less than twelve hours I experienced great relief. In a few days I was enabled to straighten out my arms, and I have been getting better and gaining in strength and flesh ever since. I have now the complete use of all my limbs, and, for the first time in two years, I am out of pain. I do feel for those who suffer as I have suffered, and if they will take my advice, they will lose no time in giving the REMEDY a trial. Yours truly,

GEORGE TAYLOR.

RICHARD'S REMEDY is for sale by

H. BOWMAN,

Druggist, Sacramento.

Price, \$2 50 per Bottle.

THE PRESS is a large, sixteen-page paper, and is truly a valuable assistant to the mining interests of the Pacific Coast.—[Eve County News.

Professional Cards.

S. C. HUGBEE & SON,
ARCHITECTS.

DESIGNS, MACHINE DRAWINGS, AND
DRAWINGS ON WOOD.

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FREDERICK MANSELL.

Mechanical & Architectural Draughtsman,
No. 422 California street, corner of Leldestorf.

Drawings of Models made for parties applying for patents at Washington or London. mar23-tf.

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Attorney and Counsellor at Law,
COMMISSIONER, appointed by the Fourth District Court, COMMISSIONER OF DEEDS for Nevada and Massachusetts.

Court Block, San Francisco.

Entrances opposite City Hall, Merchant street, and 636 Clay street.

DR. H. AUSTIN,

DENTIST,

No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER SAN FRANCISCO BATHS]
SAN FRANCISCO. 20v10-4y

DR. D. R. BECKFORD,
OCULIST,

Office of Dr. Beckford's "Golden Eye Water,"
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San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.

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WILLIAM P. BLAKE,
MINING ENGINEER,

Will make Surveys and Examinations of Mines, or give advice regarding their working, the erection of Machinery, etc.
Office at Union Iron Works, corner of First and Mission sts., or Lock Box 2,077 Post Office, San Francisco. 11v22qy

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MINING STOCK CERTIFICATES LITHOGRAPHED
IN MOST ARTISTIC STYLE. CALL AND
EXAMINE SPECIMENS.
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SHERMAN DAY,

Mining Engineer,

No. 57 Montgomery Block, San Francisco.
Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines.
22q*

Occidental Homestead
ASSOCIATION,

Office, 305 Montgomery street, San Francisco.

Capital Stock : : : : : \$33,600

102 Shares, \$33 Each.

THIS ASSOCIATION was formed to enable its members to obtain desirable homestead lots in this city, at a cheap and easy rate, paying for the same by regular monthly installments. For this purpose they have purchased blocks 499, 500, and 601 in the Western Addition to this city, bounded by Devisadero, Pine, Broderick and Clay streets. Subscribers will pay an initiation fee of \$5 on each share taken, to form a fund for defraying current expenses, and \$11 per month for thirty months, commencing in April, 1866. The property is within three blocks of the Turk Street Railroad, is nearly all on the grade, and is most desirably located for homestead purposes. It is directly east from the lands of the California Homestead Association. The property has been purchased on very reasonable terms, and offers a rare opportunity for investment. A number of fine houses are in process of erection, and streets are being graded near this property, which will greatly increase its value.

When twelve monthly payments have been made, the property will be divided among the members in the usual manner, and each shareholder will receive a contract for a deed to the lot or lots to which he may be entitled, and have the privilege of taking immediate possession of the same. The lots average 27 feet in front by 120 feet in depth. The whole amount due upon any lot may be paid at any time, and discount at the rate of 1½ per cent. per month will be deducted therefrom. Persons wishing to visit the lands of this Association will take the Turk Street cars to Devisadero street, and thence go northerly along Devisadero to Pine street.

\$20,000 of the capital stock is taken, and the hooks are open for subscription to the balance, at the office of the Secretary, where the Official Map of the Association can be seen, and all particulars obtained. The Title to this property is perfect.

J. S. LUTY, Secretary.

Office 305 Montgomery street, corner of Pine, Rooms 2 and 6. 20v12-tf

AN ENGINEER of Toulon has invented a plan for keeping the water in the harbors of the Mediterranean, which is in a perpetual state of stagnation in consequence of the absence of tides, constantly renewed by an ingenious mechanical apparatus. The naval prefect of Toulon, who distinguished himself so much while the cholera was prevalent in that town, is about to test this invention. If the trials prove successful, the discovery will be most valuable from a sanitary point of view, as the unhealthiness of many of the ports is chiefly caused by the stagnant water.

A GERMAN has succeeded in counting the hairs of four women's heads, of different complexions. The blonde had 140,419; the brown-haired had 109,440; the black-haired, 102,962; and the red-haired, 83,740.

Machinists and Foundries.

PALMER, KNOX & CO., Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight;
without excessive friction, and never
gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any
Wheel in use. There are over 1,500 running,
giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies
Having been engaged for the past eight years in quartz
mining, and being conversant with all the improvements,
either in Mining or Milling, we are prepared to furnish, at
the shortest notice, the most perfect machinery for reduc-
ing ores, or saving either gold or silver. 13v10qy-4f

FULTON Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,
Quartz, Flour and Saw Mills,
Moore's Grinder and Amalgamator, Mining
Pumps, Amalgamators, and all kinds of
Machinery.

Nos. 45, 47 and 49 First street, between Market and Mis-
sion street, San Francisco. 3-qy

SAN FRANCISCO Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of
Marine and Stationary Engines:
Quartz Machinery, Saw, Flour and Sugar Mills, Mining
Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Cider, Cotton and Tobacco Presses
of the latest Improved Patterns.
Brodie's Improved Patent WIND-BLAST SEPARATOR,
for Dry Crushing; Baux & Guano's Amalgamator and
Separator; Coal Oil Well Boring Machinery
complete, on hand.

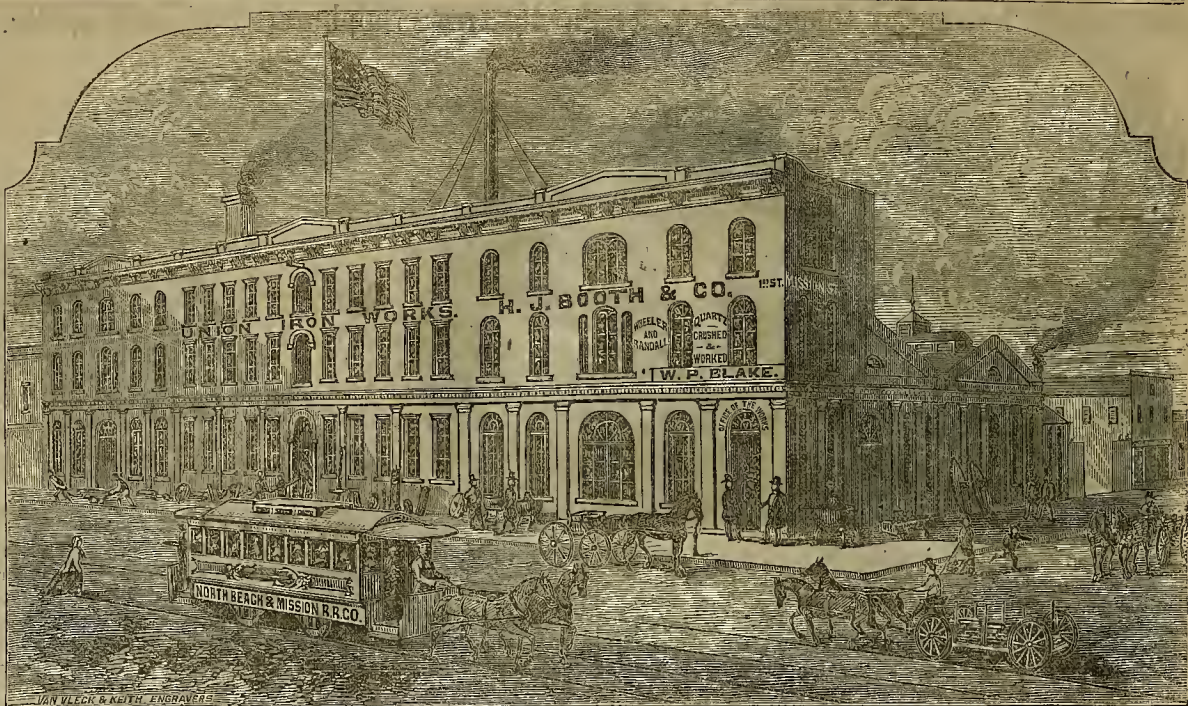
STEAM ENGINES AND BOILERS,
Of all sizes, constantly on hand; Quartz Mill Shoes and
Dies warranted to be made of the best white iron.
Dunbar's Improved Self-Adjusting Piston-
Packing, requires no springs or screws; is always steam-
tight, without excessive friction, and never gets slack or
leaky.
MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at
the lowest market rates.
6v11-ly **DEVORE, DINSMORE & CO**

JOHN LOCHHEAD'S Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.
HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DONKEY PUMPS, Etc., Etc., Etc.
The attention of the parties engaged in shipping or inland
navigation is called to the

Superior Workmanship
of Mr. LOCHHEAD, who has been in the business in San
Francisco for the last fourteen years, and enjoys the repu-
tation of having built ONE HUNDRED AND SEVENTEEN
STEAM ENGINES.
Screw Propellers of all kinds, and Steam Boat Machinery
generally, made to order, and warranted to give perfect
satisfaction in every particular. 25v12-3m



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW
prepared at the shortest notice and at the most reasonable rates, to furnish all
kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps
of all kinds, Hoisting Gear, Gas Works, Laundry Machinery, Architectural and Ornamental
Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag,
Screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all
kinds of Castings.
ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats,
Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six
to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in
use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam
Pump and Fire Engine.
BOILERS.—Locomotive, Fine, Tubular, Upright, Cylinder and Cornish, and every
variety of Boiler Work. All sizes of tubes and pipes for pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory
Curvo Pan, Zenas Wheeler's Improved flat bottom pan, Beldin's pan, Veatch's tubs,
Prater's concentrators, Wallace's pans, Beers' pan, Oeyman Barrels, Astra Gearing, Chile
Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for silver and Gold,
Portable Stamp Mills, Straight Batteries, for wood or Iron frames, Dry Crushing Bat-
teries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams,
Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS,** of all sizes.
OIL BORING TOOLS AND MACHINERY.—Of the latest and most ap-
proved construction, made from drawings lately made by Prof. Blake at the oil wells in
Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to
test their value, by the hundred weight or ton.
Ruslin Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done
in the best manner at the lowest cash prices.
H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT.
24v12 **H. J. BOOTH & CO.**

Vulcan Iron Works Company

(ESTABLISHED 1850.)

First, Natoma and Fremont Streets.

IRON FOUNDERS, Steam Engine and Locomotive BUILDERS.

Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of
new shops on Fremont Street, doubling the capacity of the
original establishment. Their facilities for turning out ma-
chinery promptly and efficiently, are now unequalled in the
State. Their Boiler Works have also been enlarged correspond-
ingly.

The Company are prepared to execute orders for all
classes of Machinery and Boiler Work, such as

Mining, Steamship, and Steamboat Machinery,
Railroad Machinery, Flouring Mills,
Locomotives, Car Trucks, Quartz Mills,
Sugar Mills,
Car Wheels, Saw Mills,
Housings and Irons; and
Manufacturing Machinery of Every Kind.

Sole Manufacturers of

HEPBURN & PETERSON'S REDUCING PAN AND AMAL-
GAMATOR
BEATH'S AMALGAMATOR;
HESSE & MOORE'S IMPROVED HOWELL QUARTZ
CRUSHER;
BAUX & GUANO'S AMALGAMATOR AND SEPARATOR;
FAUCHER'S QUARTZ GRINDER AND WATER WHEEL;
JONVAL'S IMPROVED WATER WHEEL;
LEFFLEY'S AMERICAN DOUBLE TURBINE WATER
WHEELS.
STEVEN'S PISTON PACKING RINGS.

They have also a large assortment of Patterns for Pump-
ing and Hoisting Machinery, Gearing, Pulleys, Water Mill
Iron, Hydraulic and Screw Presses, Retorts, Furnaces,
Grate Bars, House Fronts, Ornamental Fence Posts and
Paling, Slope Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best
Hard Iron. Quartz Screens of Russia
Iron Punched to Order. 27

Pioneer Iron Works.

KITTREDGE & LEAVITT,
MANUFACTURERS OF

FIRE-PROOF DOORS AND SHUTTERS
Steel Lined Bank Vaults and Safes,
PRISON CELLS, BALCONIES, AWNINGS,
Grating and Iron Fences, Stairs, Etc.

ALSO, AGENTS FOR
BUSSEY'S NEWLY PATENT COMBINATION
BURGLAR-PROOF LOCK,
No KEY, or visible signs of OPENING, &c.
Corner of Fremont and Market streets,
San Francisco.

Constantly on hand a large assortment of Second-Hand
Fire-Proof Doors and Shutters. 15v12

LEWIS COFFEY. J. S. GILSON
LEWIS COFFEY & RISDON,
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the
Pacific Coast owned and conducted by Practical Boiler
Makers. All orders for New Work and the repairing of Old
Work, executed as ordered, and warranted as to quality.
Old Stand, corner of Bush and Market streets, opposite
Oriental Hotel, San Francisco.

J. F. FLYNN. HENRY FRANCE
FLYNN & FRANCE,
EMPIRE FOUNDRY,
221 Mission street, below Beale, San Francisco, PRACTI-
CAL IRON FOUNDERS, having unequalled facilities for
the manufacture of LOCOMOTIVES, and especially parti-
cular attention will be given to this department. We manufacture
School Seats and Desks, Agricultural Implements, Railroad
Ship Castings, Stake Irons, and all other kinds of Heavy and
Light Castings, with dispatch. The patronage of the pub-
lic is respectfully solicited. 24v12-ly

J. O. HANSCOM & CO., (F. PENDERGAST, H. S. SMITH.) (W. W. HANSCOM.)

Etna Iron Works!

Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Re-
quires no springs or screws; is always steam-tight, without
excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and
Amalgamator.

Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,
Giving greater power, at lower cost, than any wheel in use.
Send for one of our circulars, giving full tables.
All Wheels warranted to give the power as set forth, or
the money will be refunded.

Sole makers for this coast of the "Pendergast
White Iron Stamp Shoes and Dies.
None genuine unless obtained from us. Every one war-
ranted.

Patented Machinery of all kinds will be furnished by us
at market prices. Particular attention given to drawings
and specifications of machinery, which will be made to
order. The patronage of the public is respectfully solicited.
15v12

NEPTUNE IRON WORKS, Corner of Mission and Fremont Streets, SAN FRANCISCO.

MARINE

Locomotive,
And all kinds of
HIGH PRESSURE
Steam Boilers

MADE
All Boilers guaranteed and
tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.

All kinds of Sheet Iron and
Water Pipe, Coal Oil
Stills, Wrought Iron
Worms, etc., etc.
Manufactured to Order.

Old Boilers Repaired
D. CAMERON.

6v12-ly

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UNION IRON WORKS, Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired
with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old Cylinders, manufactured
to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

Miners' Foundry

MACHINE WORKS.

First St., between Howard and Folsom Streets,
SAN FRANCISCO.

EVERY description of Iron and Brass Machinery, the
BEST and MOST ECONOMICAL, manufactured in the
State of California, will be furnished with dispatch at the
MINERS' FOUNDRY AND MACHINE WORKS, such as
Steam Engines and Boilers, Flour, Saw and Quartz Mills,
Machinery, Mining Pumps, Amalgamators,
Retorts, Etc., Etc.

Particular attention will be given to the manufacture of
Machinery in Sections designed for places of difficult ac-
cess. Various models of Quartz Crushers, Amalgamators
and Water Wheels—some in operation and on exhibition.
Parties desiring to test their ores practically, in small
quantities, will be afforded ample facilities, FREE OF COST.
All parties desiring accurate and highly finished drawings
and superior Machinery, at most reasonable rates, are cor-
dially invited to call before contracting elsewhere.

HOWLAND, ANGEL & KINO

M. GREENBERG. W. H. MOORE. GREENBERG & MOORE, Eagle Brass Foundry,

No. 43 First street, San Francisco,

(Between Mission and Market.)

MANUFACTURERS OF
all kinds of Brass and
Bell Castings; Forco
and Lift Pumps; Cocks
and Valves of every de-
scription made and re-
paired; Oil Globes, Steam
Whistles, Hydraulic Pipe
and Nozzles (for Mining
purposes). Also,
COUPLINGS OF ALL
SIZES.

Particular attention paid to Hydraulic Pipes and
Nozzles; also, to Ship Work of all descriptions. All orders
from the interior will be attended to with promptness and
dispatch. 25v12-3m

GEORGE T. PRACY, MACHINE WORKS,

Nos 109 and 111 Fremont street, near corner of Mission,

OPPOSITE MECHANICS' MILL,

SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,

—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND
REPAIRED.

Special attention paid to Repairing. 24v12-3m

The New River (Trinity County) Mines.

As considerable interest is beginning to be manifested in connection with this extensive but little known mining district, we have deemed it proper to furnish all the information at hand in relation to it, hoping and believing that the time is not far distant when it will be filled with an industrious and prosperous population.

New River heads in the range of mountains dividing Trinity and Klamath counties, and is about thirty miles in length. The river at the Forks, eighteen miles from its junction with the Trinity, is as large as the North Fork, and at no season of the year contains less than a hundred sluice heads of water. The following list of distances to the mines of that section from the points indicated, are obtained from parties who have traveled the several routes mentioned, and who are familiar with the country. From Weaverville to North Fork, the distance is fourteen miles; North Fork to Scheffer's store, two miles from the mouth of Rattlesnake creek, twenty-four miles; Scheffer's store to Lake City, on the North Fork of New River, sixteen miles, making the total distance from Weaverville to the diggings, fifty-four miles. To reach them from Humboldt Bay the distance is about 100 miles, as follows: Arcata to Fort Gaston, forty-two miles; Fort Gaston to mouth of New River, twenty-eight miles; mouth of river to Caraway & Garratt's trading-post, eighteen miles, thence to Lake City, twelve miles. Virgin Creek, the principal tributary from the south, is reached six miles from the trading post in question, and along its banks some of the richest claims ever found in the county have been worked. The upper settlement on the river can be reached from the South Fork of Salmon river in half a day's travel.

But little was known of the New River country until the year 1860. During that and the following year from one to two hundred miners worked in the banks and bars along the stream, but in no single instance, that we can learn, extending their researches to the flats and hills where water could not be conveniently obtained. As in the early days of California, when men, not content with an ounce or \$20 a day must hunt for better digging, so it was on New River then. Most of the miners had made money, and the fabulous reports from the Salmon river of the North were enticing. Some sold their claims for a mere song, while others deserted them entirely, and started for the distant region where fortunes could be speedily harvested without any outlay of labor. That year also commenced the Indian troubles; the settlers were driven from their homes along the river, and the miners were cut off from their usual base of supplies. A few wintered on New River, and early in the spring of '63 the last remaining laborers were driven across the divide to Salmon river by the daky foe. For near two years—or until the close of the Indian campaign, the New River mines were entirely deserted. Last summer a few miners located near the Forks of the river, and at present there are some fifty or sixty white men and double that number of Chinamen employed, and we learn that new comers are arriving daily.

When we express the belief that one thousand miners can find remunerative employment along New River and its tributaries, we do it on the authority of practical miners' and reliable men, whom we have no reason to believe desire to misrepresent. That rich claims have been worked all along the stream for twenty-five miles, we know, and that there are thousands of acres of ground never yet disturbed by pick and shovel, we have good authority for asserting. As a general thing water is plenty the year round, the section is much easier of access than many others to which thousands of Californians are now madly rushing, and merchandise of all kinds is both plenty and cheap.

And not alone does the New River country offer flattering inducements to steady and enterprising men. The vast basin lying between the North Fork and New River, and bounded by the New River, Trinity and North Fork ranges of mountains, is but little known. Good prospects have lately been obtained near the head of French creek, which has its source in the New River range. The North Fork of Trinity is unprospected for twenty miles, and simply because the bars and banks are difficult of access. A party of enterprising men cut a trail from the summit of the divide to the bed of the stream, a distance of five or six miles, last summer, and opened a claim which paid well. Others will follow their example before long. On Grizzly Fork, a stream ten or twelve miles in length, only half-a-dozen men are working.

Along the lower Trinity important mining operations have been commenced the present year, and this condition of things will continue spite of much croaking to the contrary. We have John McCannion's word for it that Cedar Flat will send abroad a good report at no distant day. He has been here prospecting faithfully for the last three months, and has "struck it rich."



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.

Metallurgy.

G. KUSTEL,

Metallurgist and Mining Engineer,
Stevenson House, corner Montgomery and California sts.

Ores Analyzed,
Advice given, and Plans furnished for working of different
Ores. Mines examined and reported upon.
20v11 3m

BOALT & STETEFELDT,
Metallurgists and Mining Engineers

AUSTIN, NEVADA.

Western Branch of ADELBERG & RAYMOND, No. 90
Broadway, New York. 1v11.

G. W. MAYNARD, J. H. TIEMANN,
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
249 Pearl Street, New York,
—AND—
CENTRAL CITY, COLORADO.
19v12 1y

Copper, Lead, Gold, Silver,
Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances
made upon consignments, at the lowest British rates of interest.
For particulars apply to

THOMAS PRICE,

Agent for Townsend Wood & Co., Swansea,
No. 405 Calif. run Street, San Francisco.
15v10 3m

Copper Ore! Copper Ore!
BOUGHT BY
CONROY & O'CONNOR,
Front, near Pine street, San Francisco.
15v12 4f

To Copper Miners and Others Interested in
the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED
Agent and Attorney by N. Haskell, for the sale of his
COPPER SMELTING FURNACE, which has proved a perfect
success, is prepared to furnish the same to parties having
Copper Ore, or will make arrangements to buy their ore,
receivable at their mines. For further particulars, apply to
JOHN N. HASKELL
21v12 At Coffey & Risdon's, San Francisco.

SODIUM,
Potassium, Magnesium,
And a fresh supply of
PURE CHEMICALS.
Just received and for sale by

JOHN TAYLOR & CO.,
4v12 1m 512 Washington street.

MARTEN & CO.,
Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE
PURCHASE OF COPPER ORES.
Assaying eight per cent. and upwards of Copper to the
We will make advances upon Ores of Copper.
San Francisco, Post Office Box 1253. 22

EUROPEAN
METALLURGICAL WORKS,
—AND—
Practical Mining School,
Bryant Street, Between Third and Fourth,
SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test
ores sent to this establishment—either in large or small
quantities—by such process as may be found best adapted to
their chemical character, after a careful analysis has been
made. Test lots of Ore adapted to the smelting process at
tended to. Sulphuret, pyrites, and the so-called "rebel-
lous ores," are having especial attention paid to their suc-
cessful treatment. Assaying in the humid and dry way,
also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications
from gentlemen desirous of pursuing the study of practical
metallurgy—have concluded to admit parties on reasonable
terms. Having in their Mill all the necessary appli-
ances for crushing, roasting, amalgamating, smelting, re-
fining and assaying, as also a well extended Laboratory for
the analysis of ores and Minerals, a good opportunity is
here offered to acquire a sound practical knowledge of the
business.
S. P. KIMBALL, J. R. MORPHY.
10v10

JOHN TAYLOR & CO.
IMPORTERS,
AND DEALERS IN
ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERT
LING (London) and BECKER & SONS (Antwerp, Bel-
gium) their superior

ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern
States, FURNACES, CRUCIBLES, NUFFLES, BLOW-PIPE
CASES, GOLD SCALES, CHEMICAL GLASSWARE, and
every article required for ASSAY OFFICES, LABORATO-
RIES, etc. We have given this branch of our business par-
ticular attention, to select such articles as are necessary
for the development of the mineral wealth of this coast.
A Full Assortment of DRUGGISTS' GLASSWARE and
DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, con-
stantly on hand.
San Francisco, March 6, 1865. 1v10 4f

California Steam Navigation
COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE
" CHRYSOPELIS.....CAPT. A. FOSTER
" MONMOUTH.....CAPT. A. FOSTER
" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONKLIN
One of the above steamers leaves BROADWAY WHARF
at 4 o'clock P. M. EVERY DAY (Sundays excepted), for
Sacramento and Stockton, connecting with light-draft
steamers for Marysville, Colusa, Chico, and Red Bluff.
Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA,
ACTIVE and SENATE leave, as advertised, for Hon-
lulu, Portland, Oregon, New Westminster, British Colum-
bia, Victoria, V. I., Santa Barbara, San Pedro, and San
Diego.
Office of the Company, northeast corner of Front and
Jackson streets.
B. M. HARTSHORNE,
President. 13v12

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT
order for the accommodation of guests. Persons seek-
ing comfort and economy will find this the best Hotel in
the city to stop at. The Beds are new and in good order,
and the Rooms well ventilated. The Table will always be
supplied with the best in the market.

Prices, varying from \$1.50 to \$2.50 per day for
Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED
TO THE HOUSE.

27 Teams belonging to the House will be in attendance
at all the boats and cars to convey passengers to the House
FREE OF CHARGE, and to any part of the city for 50 cents.
21v12 P. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL,
K Street, between Third and Fourth,
SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT
Hotels in Sacramento. It has seventy-five Rooms,
which can be had in suites for families, or singly to suit in-
dividuals—all new-furnished, large and nicely ventilated.
No expense has been spared to make it comfortable and
pleasant for guests.
Price of Rooms—very low. Meals, 25 cents.
8v12 6m B. EISENMENGER.

BRANNAN HOUSE,
(Formerly Vernon.)
J street, between Front and Second streets,
SACRAMENTO.

FIRST CLASS ACCOMMODATIONS CAN BE HAD.
8v12 3m MRS. J. DUNN, Proprietress.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets,
opposite Steamboat Landing.

Meals.....25 cents.
Board, per week.....\$4.00
Dining and Lodging, per day.....1.00
Single Rooms......50
Railroad Ticket Office and Stage Office on first floor.
7v12 3m A. J. SENATZ, Proprietor.

CALIFORNIA
BUILDING AND LOAN SOCIETY
Removal Notice.

THE DIRECTORS OF THE CALIFORNIA BUILDING
AND LOAN SOCIETY, announce to the public the re-
moval of their business to their

NEW BANKING HOUSE,
California Street, one Door from Sansone.

LOANS.

The Directors propose an extension of their Banking ac-
commodation to the assistance of—

First—The Purchase of Real Estate.
Second—The Erection of Houses.
Third—The Erection of Manufactories.
Fourth—The Building of Sea and River Vessels of all sizes.
Fifth—Merchandise Cash Credits on the Scottish principle,
for such time as may be agreed upon.

Under the above general heads, Loans will be made for
terms of years to correspond with the requirements of
parties upon the security of REAL ESTATE, BUILDINGS,
SHIPS and MERCHANDISE.

MONTHLY DEPOSITS.

ONE PER CENT. PER MONTH will be allowed on all
deposits made at one month's notice of withdrawal.

CURRENT ACCOUNTS.

HALF PER CENT. PER MONTH will be allowed on the
daily balances to credit of Current Banking Accounts—the
same to be ascertained and credited monthly.

REMITTANCES FROM THE COUNTRY
PROMPTLY ACKNOWLEDGED.

INTEREST on all sums commences from the day of de-
posit.

DEPOSITS of any amount received, from FIVE DOL-
LARS upwards.

OFFICE HOURS—9 1/2 A. M. to 3 1/2 P. M. daily.

SATURDAY EVENINGS from 6 1/2 to 9 o'clock.

THOMAS MOONEY, President.

W. G. WEIR,

SAUL E. GRIM,

ROBERT LEWELLYN,

JOHN DUNN,

C. A. JANKS,

ROSENFELD,

J. W. MCCORMICK,

L. R. TOWNSEND, Secretary.

16v12 3m

Eyes! Eyes!! Eyes!!!

DR. HENLY, OCULIST AND AURIST, HAS
received from Scotland one of the most MIRACU-
LOUS REMEDIES for the benefit of the human eye,
ever before discovered. It is unparalleled in its
effect upon the diseases incident to this organ.
It gives wonderful power to the optic nerve, and removes
all the granulations from the lids, and all mucous film from
the sclerotic coat without the use of instruments. In fact,
it works like a charm on the eye, without giving any pain.
You feel the effect of the medicine in different parts of the
head. It drives the disease back into the system, which is
better able to stand it than this tender organ.
Why will you suffer when you can be cured in a few days.
Persons who have been blind for ten years have been re-
stored to their sight in a short time by the use of this medi-
cine. I will treat any person's eyes in the State, and if I do
not give them relief in a short time, I will not charge
them anything. Office, No. 751 CLAY STREET, opposite
the Plaza, San Francisco. 22v12

SMOKE THE
PATENT
RUSSIAN
CIGARETTES.
manufactured by
GIBB & STAHL
120 Kearny Street,
San Francisco
16v12 3m For sale in all the Cigar Stores.

COPPERAS! COPPERAS!
200 BARRELS COPPERAS—SULPHATE OF IRON.
For sale, in lots to suit, by
BENJAMIN BRADY,
103 California street,
Southwest corner of Davis, up stairs.
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American and Foreign Patents.—Letters Patent
for inventors can be secured in the United States and foreign
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AGENCY. We offer applicants reasonable terms, and they
can rest assured of a strict compliance with all obligations,
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we will furnish the names of numerous parties for whom
we have obtained patents during the past two years.

City College Laboratories,

Southeast Cor. Stockton and Geary sts.

Practical and Analytical Chemistry and Metallurgy.

THOMAS PRICE,
Professor of Chemistry.

(Formerly of the Normal College, Swansea.)

WILL GIVE PRACTICAL INSTRUCTIONS IN QUALITATIVE AND QUANTITATIVE ANALYSIS AND ASSAYING. The course qualifies students for the application of Chemistry to METALLURGY, MANUFACTURING ARTS, and MINING PURPOSES.

PHARMACEUTICAL and TECHNICAL CHEMISTRY, such as is required by Medical and Pharmaceutical Students, will be taught to such students as may require it.

Course of General Chemistry.

Evening Lectures will be delivered every Tuesday, at half past seven o'clock P. M., in the Philosophical Hall of the College, without extra charge to the students in the Institution.

On and after the 14th of February, the Laboratories will be open every day except Sundays, from 8 A. M. to 5 P. M. For further particulars, address

REV. P. V. VEEDER,

Principal of the City College.

Or at 406 California Street.

6v12tf

SACRAMENTO SEMINARY.

BOARDING SCHOOL

FOR YOUNG LADIES.

Tenth Street, between F and G.

SACRAMENTO, CAL.

Session commenced January 3, 1866.

MR. AND MRS. HERMON PERRY,

7v12tf

Principals.

SANTA CLARA COLLEGE, S. J.,
SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SIXTEENTH ANNUAL SESSION of this College will commence on

Monday, August 20th, 1866.

TERMS.—Tuition in the Classical and Scientific Department; Boarding and Lodging; Washing and Mending of articles washed; School Stationery; Medical Attendance and Medicine; fuel, light, baths, etc., per session of ten months. \$350

For further information and catalogue, apply to the President of the College, or to Rev. A. Marselli, St. Ignace College, Market street, San Francisco.

3v11-tau12

REV. A. MARSALLI, S. J., President.

Commercial Academy for Ladies & Gentlemen

No. 111 K STREET, SACRAMENTO, CALIFORNIA.

Established in 1853, where students can acquire a thorough business education. Double Entry Book Keeping, Practical and Ornamental Penmanship and Drawing, Latin, French, the Common and Higher English Branches, taught on reasonable terms. Students from any part of the State can procure board and lodging in private families, near the Academy, at from \$4 to \$8 per week. For terms, address, MART TAYLOR, Principal; Miss SARAH J. WEIR, Associate Principal.

2v12

ANNUAL REPORT
—OF THE—
Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE OF THE STATE OF CALIFORNIA, ENTITLED "AN ACT CONCERNING CORPORATIONS," PASSED APRIL 22, 1860, THE PACIFIC INSURANCE COMPANY OF SAN FRANCISCO MAKES THE FOLLOWING ANNUAL REPORT:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD. \$750,000

II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS. \$1,051,420.37

III.—The Company has NO DEBTS.

IV.—The amount of insurance effected during the year, and which remained in force December 31, 1865: \$12,973,949

Fire. \$12,973,949

Marine. \$48,408

This Company commenced underwriting Marine Risks, August 1, 1865.

V.—This Company insures against the following risks, viz: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS BY FIRE.

Also, on CARGOES, TREASURES, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL MARINE AND INLAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reinsure to an efficient company with PRUDENT in other RESPONSIBLE COMPANIES.

J. HUNT, President.

J. J. RALSTON, Secretary.

San Francisco, January 19, 1866.

Wm. Alvord, S. M. Wilson, G. W. Bell,

Alex. Weill, M. Cheesman, Chas. Mayne,

John Seligman, Wm. Hooper, Lloyd Lewis,

Anson G. Sikes, John B. Newton, T. L. Barker,

Abm. G. Bray, Edward Martin, Jas. De Fremery,

A. Hayward, D. O. Mills, Wm. Sherman,

D. W. C. Rice, L. B. Bencheley, John O. Earl,

M. Meyer, L. B. Bencheley, Alfred Borch,

D. J. Oliver, Moses Heller, E. T. Lawton,

Alpheus Bull, Louis Scholle, G. L. Goldstein,

W. C. Ralston, Louis McLane, Moses Ellis,

John Wightman, Oliver Eldridge, P. L. Weaver,

L. Sachs, A. B. Forbes, David Stern,

Frederick Billings, J. O. Kellogg,

State of California, City and County of San Francisco, ss.

On this nineteenth day of January, A. D. one thousand eight hundred and sixty-six, personally appeared before me, H. S. Homans, a Notary Public, in and for the said City and County, and therein being duly commissioned and sworn, A. J. Ralston, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.

A. J. RALSTON.

Sworn and subscribed to before me, this 19th day of January, A. D. 1866.

H. S. HOMANS, Notary Public.

6v123m

Capitalists, Attention!

QUARTZ MILL & MINING PROPERTY

FOR SALE

In Nevada County.

A NEW 8-STAMP QUARTZ MILL, 7 LEDGES AND 640 acres heavily-timbered Land, near Eureka, Nevada County, are now offered for sale. The Mill is run by steam-power, and is in complete order for business. The ledges, which form the principal value of this property, are all large and well-defined, but require a further outlay of capital, in order to make them remunerative. For the lack of means to properly develop these rich claims, the present owners are disposed to sell the same for a reasonable price. Capitalists wishing to engage in mining will find this a splendid opportunity to purchase a property that will bear great scrutiny, and offers superior inducements as an investment.

For address and further information, inquire of the Publishers of the MINING AND SCIENTIFIC PRESS, 505 Clay street, San Francisco.

SUBSCRIBERS who do not receive the MINING AND SCIENTIFIC PRESS in due time, are requested to inform the publishers.

A Rare Chance!

A Splendid Business in Alameda County.

FOR SALE AT A GREAT BARGAIN,

400 ACRES OF LAND,

INCLUDING

Landing, Wharf, Three Capacious

Warehouses,

Capable of holding 12,000 Tons, which amount of grain was stored and shipped the past year. Connected with said business there is an extensive Lumber Yard; sales during last year, two million feet, which sales, and the entire business, can be largely increased.

The above is a rare opportunity for parties desirous of engaging in an active business that will pay a large dividend on the investment. Satisfactory reasons given for selling, and all information desired can be obtained on application by mail, or otherwise, to

G. E. SMITH,

Notary Public and Searcher of Records, Office "Beatty House," San Leandro. 2v12-m

NEW YORK PRICES.

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Arizona Copper Mining Company, Castle County, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of June, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Austin, H.	407	17	\$0 80
Austin, H.	456	10	4 00
Austin, H.	600	3	1 20
Allen, R. Prest.	33	20	8 00
Allen, R. Prest.	34	20	8 00
Allen, R. Prest.	38	25	10 00
Allen, R. Prest.	41	25	10 00
Allen, R. Prest.	42	25	10 00
Allen, R. Prest.	43	25	10 00
Allen, R. Prest.	44	25	10 00
Allen, R. Prest.	45	25	10 00
Allen, R. Prest.	46	25	10 00
Allen, R. Prest.	47	25	10 00
Allen, R. Prest.	48	25	10 00
Allen, R. Prest.	49	20	8 00
Blanding, Wm, old cert.	261	12	4 80
Blanding, Wm, old cert.	322	12	4 80
Blanding, Wm, new cert.	185	46	18 40
Blanding, Wm	372	27	10 80
Blanding, Wm	273	50	20 00
Blanding, Wm	455	100	40 00
Blanding, Wm	023	500	240 00
Blanding, Wm	524	65	20 00
Benchley, L.B	477	90	36 00
Bensley, C.C	160	73	20 20
Bensley, C.C	420	27	10 80
Buckingham, A.A	52	89	27 00
Cushing, J.J	24	80	24 00
Cushing, J.J	385	10	0 40
Cushing, J.J	563	132	48 80
Cushing, J.J	833	300	120 00
Cookburn, Jas	286	5	2 00
Cookburn, Jas	294	2	4 80
Cookburn, Jas	375	10	4 00
Hill, A.E, Trustee	640	238	95 20
Hill, A.E, Trustee	841	798	318 40
Kellogg, F.D	453	81	12 40
Kellogg, F.D	454	7	2 80
Martin, A	582	30	12 00
Martin, A	583	30	12 00
Martin, A	586	20	8 00
Martin, A	587	20	8 00
Morrison, T.H	280	10	4 00
Morrison, T.H	281	10	4 00
Rawley, R	138	10	4 00
Staples, F.O	829	100	40 00
Sanger, Jos F	137	40	16 00
Southwick, W	308	18	7 20
Southwick, W	399	60	20 00
Southwick, W	568	38	15 20
Southwick, W	678	160	64 00
Southwick, W	516	160	64 00
Shinley	837	900	300 00
Shipley, A.J	838	23 18-100	0 26
Tyler, E.S	632	150	00 00
Tevis, Lloyd	462	114	45 60
Tevis, Lloyd	819	300	120 00
Wilson, J.O	549 (bal.)	44 88-100	17 45
Wilson, J.O	558	50	20 00
Wilson, J.O	559	50	20 00
Wilson, J.O	602	50	20 00
Wilson, J.O	605	50	20 00
Wilson, J.O	606	50	20 00
Wilson, J.O	607	5	2 00
Wilson, J.O	608	85	27 20
Wilson, J.O	627	60	20 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of June, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of Messrs. Olney & Co., 418 Montgomery street, on the twenty-fourth day of July, 1866, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

SAMUEL I. C. SWEZEY, Secretary.

Office, 302 Montgomery street, San Francisco, Cal. jv7

Great Central Mining Company.—Location of

Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second (2d) day of July, A. D. 1866, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States of America, to the Secretary, at the office of the Company, No. 302 Montgomery street, between the hours of 4 and 5 P. M. of said day. Any stock upon which said assessment shall remain unpaid on the third (3d) day of August, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and will be made before, will be sold on the twenty-seventh (27th) day of August, A. D. 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, No. 302 Montgomery street, San Francisco. jv7

Santa Cruz Petroleum Oil Works Company,

Location: Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 24th day of July, 1866, an assessment, No. 16, of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. WEGENER, 415 Montgomery street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the 7th day of August, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the 28th day of August, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.

Office, 415 Montgomery street, San Francisco, Cal. jv7

Mining Notices—Continued.

Arbitros Mining Company, Batopilas Dis-

trict State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 28th day of May, 1866, an assessment, No. 10, of one dollar and fifty (150) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 811 Montgomery street, at San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the 12th day of July, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 13th day of August, 1866, to pay the delinquent assessment thereon, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. MARTINON, Secretary.

Office, 811 Montgomery street, San Francisco, Cal.

N. B.—Until further notice, all advertisements of this Company will appear in the MINING AND SCIENTIFIC PRESS.

jv2

MUSIC PRINTING,

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice.—The Third Annual Meeting of the stockholders of the above named Company, will be held at their office, 415 Montgomery street, San Francisco, Cal., on SATURDAY, the twenty-first (21st) day of July, 1886, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WEGENER, Secretary.

N. B.—All stockholders who cannot be present are requested to file their proxies with the Secretary. j223

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment (No. 7) levied on the tenth day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bell, B. C.	174	25	\$25 00
Bell, B. C.	175	25	25 00
Bell, B. C.	176	25	25 00
Bell, B. C.	177	25	25 00
Bell, B. C.	178	25	25 00
Bell, B. C.	179	25	25 00
Bell, B. C.	180	25	25 00
Bell, B. C.	181	25	25 00
Bell, B. C.	182	25	25 00
Bell, B. C.	183	25	25 00
Bell, B. C.	184	25	25 00
Bell, B. C.	185	25	25 00
Bell, B. C.	186	25	25 00
Bell, B. C.	187	25	25 00
Bell, B. C.	188	25	25 00
Bell, B. C.	189	25	25 00
Bell, B. C.	190	25	25 00
Bell, B. C.	191	25	25 00
Bell, B. C.	192	25	25 00
Bell, B. C.	193	25	25 00
Bell, B. C.	194	25	25 00
Bell, B. C.	195	25	25 00
Bell, B. C.	196	25	25 00
Bell, B. C.	197	25	25 00
Bell, B. C.	198	25	25 00
Bell, B. C.	199	25	25 00
Bell, B. C.	200	25	25 00
Bell, B. C.	201	25	25 00
Bell, B. C.	202	25	25 00
Bell, B. C.	203	25	25 00
Bell, B. C.	204	25	25 00
Bell, B. C.	205	25	25 00
Bell, B. C.	206	25	25 00
Bell, B. C.	207	25	25 00
Bell, B. C.	208	25	25 00
Bell, B. C.	209	25	25 00
Bell, B. C.	210	25	25 00
Bell, B. C.	211	25	25 00
Bell, B. C.	212	25	25 00
Bell, B. C.	213	25	25 00
Bell, B. C.	214	25	25 00
Bell, B. C.	215	25	25 00
Bell, B. C.	216	25	25 00
Bell, B. C.	217	25	25 00
Bell, B. C.	218	25	25 00
Bell, B. C.	219	25	25 00
Bell, B. C.	220	25	25 00
Bell, B. C.	221	25	25 00
Bell, B. C.	222	25	25 00
Bell, B. C.	223	25	25 00
Bell, B. C.	224	25	25 00
Bell, B. C.	225	25	25 00
Bell, B. C.	226	25	25 00
Bell, B. C.	227	25	25 00
Bell, B. C.	228	25	25 00
Bell, B. C.	229	25	25 00
Bell, B. C.	230	25	25 00
Bell, B. C.	231	25	25 00
Bell, B. C.	232	25	25 00
Bell, B. C.	233	25	25 00
Bell, B. C.	234	25	25 00
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Bell, B. C.	236	25	25 00
Bell, B. C.	237	25	25 00
Bell, B. C.	238	25	25 00
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Bell, B. C.	240	25	25 00
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Bell, B. C.	245	25	25 00
Bell, B. C.	246	25	25 00
Bell, B. C.	247	25	25 00
Bell, B. C.	248	25	25 00
Bell, B. C.	249	25	25 00
Bell, B. C.	250	25	25 00

And in accordance with law and an order of the Board of Trustees, made on the tenth day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Tuesday, the tenth of July, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. WEGENER, Secretary.

Office, 415 Montgomery street, San Francisco, Cal. j223

George Washington Gold and Silver Mining Company. Silver Mountain District, Alpine County, Cal.—Assessment No. 12.

Notice.—It is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 28th day of June, 1886, an assessment of one dollar and a half (\$1.50) per share was levied upon the capital stock of the said Company, payable immediately. In United States gold and silver coin, to the Secretary, at the office of the Company, only.

Any stock upon which said assessment shall remain unpaid on the 28th day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 13th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of the sale. By order of the Board of Trustees.

W. D. ROOT, Secretary.

Office, 338 Montgomery street, San Francisco.

Notice.—At the above meeting of the Board of Trustees, an order was passed making the undersigned General Agent and Attorney in Fact of the Company, with full power to take such steps as he may deem proper, to work the ores of the Company, and further develop the mine; and to that end may employ competent persons, lease or build mills, erect furnaces, enter into, make and let contracts, sign, seal and deliver obligations, and do and perform whatsoever thing else may deem for the interest of the Company at large, and with power to employ and substitute a Secretary during his absence.

W. D. ROOT, Secretary.

Hansom Copper Mining Company, Low Divide District, Del Norte County, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 29th day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Guyas, Geo K	100	30	30 00
Powers, C A	40	12	12 00
Snail, I H	64	19	19 00
Thompson, M A	3 1/2	1 00	1 00
Wheeler, C F	1 1/2	3 75	3 75
H L Hunt	411	40	40 00
J D Hunt	402 to 410	50	45 00
J D Hunt	422 to 441	50	45 00
J D Hunt	451 to 469	100	90 00
J H Ryckman	412 to 421	50	45 00
F W Councilman	442	50	45 00
C Tolman	443 to 447	20	10 00
W J Forbes	448	10	9 00
W J Forbes	449	10	9 00
John Nash	462	75	6 75
J H Baker	463	50	4 50
George S Fisher	464	50	4 50
Mrs A M Hennell	465	50	4 50
F Billings	470	1600	144 00
Thos Bell	471	1600	144 00
P N McKay	472	1600	144 00
H N Hale	473	800	72 00
H M Halo	474	800	72 00
W P Harrison	475	1600	144 00
S Heydenfeldt	121	1600	144 00
H McAllister	158, 157	10	20 00
H McAllister	141 to 144	25	10 00
H McAllister	233 to 238	5	30 00
H McAllister	449	1450	130 50
W O Chong	145	5	45 00
Han Two	146	5	45 00
H Lund	147	1000	90 00
H Lund	148	240	21 60
H Mohr	151	10	9 00
J & P Medan	153	80	72 00
Jno H Saunders	152	800	72 00
Jno H Saunders	183	800	72 00
R M Jesaup	189 to 193	100	144 00
W Elias	251	10	9 00
H Pfitger	252	10	9 00
W Herwig	253	10	9 00
J Wolfson	254	45	4 05
A Clayburgh	255	5	45 00
Fanny Rosenberg	260	5	45 00
C Tolman	261	5	45 00
J Rosenbom	262	5	45 00
J Rosenbom	263	10	90 00
Caroline Bart	264	5	45 00
T Haaf	215	25	22 50
J H Van Reed	319, 316	100	18 00
J H Van Reed	320	40	4 50
J H Van Reed	321	25	22 50
T Stevens	310	5	45 00
Chas Watson	311	5	45 00
Jos J Hall	313	15	1 25
Jos J Hall	314	15	1 25

And in accordance with law, and an order of the Board of Trustees, made on the second day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, 609 Market street, San Francisco, on the 16th day of July, 1886, at the hour of 11 o'clock A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. S. SWEET, Secretary.

Office, No. 609 Market street. j230

It is filled with reliable, useful and interesting matter and to our miners who wish to understand the theoretical, as well as the practical part of their business, the MINING PRESS will be found an invaluable aid.—[Nye County News]

Great Basin Mining Company, Humboldt County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificates.	No. Shares.	Amount.
H E Highton	273 to 277	100-ea	500
H E Highton	203, 204, 206 to 212	50	
H E Highton	213, 214, 216, 218 to 220, 221 to 223	250-50	600
H E Highton	223 to 225	25	ea
H E Highton	226	400	
H E Highton	227	400	
H E Highton	228 to 232	25	ea
H E Highton	233	400	
H E Highton	234	400	
H E Highton	235	400	
H E Highton	236	400	
H E Highton	237 to 242	25	ea
H E Highton	243	55	
H Butner	162	7	
H Butner	163	7	
H Echart	6	5	
W Krong	6	10	
Thos Meetz	7	5	
Benj Simon	8	5	
M Freney	9	10	
Jno Kohlmoos	10	5	
H Engelbrecht	12	10	
T Wetzel	13	5	
A Pichoir	14	5	
C Schultz	243	100	
C Schultz	244 to 250	10	ea
J F Helmke	10	10	
W E F Krause	17 to 20	5	ea
W E F Krause	22, 23	10	ea
W E F Krause	24 to 27	25	ea
Tong Wo & Co	28	60	
Ellen Watkins	29	5	
B Henly	30	2	
Geo G W Hoge	31	10	
D Buzzell	32 to 36	20	ea
D Buzzell	37	25	
C H Voight	38	25	
G O H Taaffe	37	25	
C O H Taaffe	309	200	
H Critcher	39, 40	25	ea
W B Cooke	41	50	
W B Cooke	42	50	
O L Shaffer	47	50	
F Marlett	44	25	
F Marlett	381 to 385	10	ea
W H Cherry	71, 72, 74, 75	20	ea
W H Cherry	73, 76	10	ea
E R Highton	467	4265	
E R Highton	281 to 284	100	ea
E R Highton	116, 117, 235, 236	550	
E R Highton	118 to 125, 299 to 306	25	ea
E R Highton	126 to 129, 299 to 315	20	ea
E R Highton	323 to 326	10	ea
J Mcm Shaffer	98	25	
C W Howard	99	25	
H M Willmore	393, 394	500	ea
H M Willmore	395, 396	100	ea
Geo Eldenmiller	100 to 103	50	ea
Geo Eldenmiller	104 to 105	20	ea
Geo Eldenmiller	107	5	
Geo Eldenmiller	259	15	
Jno Palmer	112, 113, 115	25	ea
J S Schuster	108	100	
J S Schuster	109	100	
J S Schuster	110	10	
J S Schuster	111	5	
Jno M Bryan	137	10	
Jno M Bryan	155	15	
Wang Sang	138	5	
Al Non	139	6	
R W Carter	140	10	
F P Bird	315	5	
H Forbes	316	5	
Jno Scandling	317	5	
Wm H Taylor	318	5	
A P Stunford	333	1500	
G J Beving	337	25	
J P Phillips	338 to 341	25	ea
G Staeke	343	25	
C Staeke	373	10	
C Staeke	374	5	
H F Teschemaker	352	800	
James Blake	344	500	
James Blake	345 to 349	100	ea
H F Teschemaker	353	800	
Emily S Tewksbury	365	50	
D Melarky	371	15	
J B Cutler	372	5	
George Green	373	5	
Chas Carter	374	5	
William Williams	377	5	
H Monk	378	5	
George French	379	5	
B M Terrill	380	5	
C P Fessenden	386	10	
M H Fowler	387	100	
D Lake	388 to 392	100	ea
D Lake	393 to 396	100	ea
J D Hunt	411	40	
J D Hunt	402 to 410	50	ea
J D Hunt	422 to 441	50	ea
J D Hunt	451 to 469	100	ea
J H Ryckman	412 to 421	50	ea
F W Councilman	442	50	
C Tolman	443 to 447	20	ea
W J Forbes	448	10	
W J Forbes	449	10	
John Nash	462	75	
J H Baker	463	50	
George S Fisher	464	50	
Mrs A M Hennell	465	50	
F Billings	470	1600	
Thos Bell	471	1600	
P N McKay	472	1600	
H N Hale	473	800	
H M Halo	474	800	
W P Harrison	475	1600	
S Heydenfeldt	121	1600	
H McAllister	150, 157	10	ea
H McAllister	141 to 144	25	ea
H McAllister	233 to 238	5	ea
H McAllister	449	1450	
W O Chong	145	5	
Han Two	146	5	
H Lund	147	1000	
H Lund	148	240	
H Mohr	151	10	
J & P Medan	153	8	
Jno H Saunders	182	800	
H H Saunders	183	800	
R M Jesaup	189 to 199	100	ea
W Elias	251	10	
H Pflueger	252	10	
W Herwig	253	10	
J Wolfson	254	45	
A Clayburgh	255	5	
Fanny Rosenberg	260	5	
C Lobman	261	5	
J Rosenbohm	262	5	
J Rosenbohm	263	10	
Caroline Bart	264	5	
T Hnaaf	215	25	
J H Van Reed	319, 315	100	ea
J H Van Reed	320	50	
J H Van Reed	321	25	
T Stevens	310	5	
Chas Watson	311	5	
Jos J Hall	313	15	
Jos J Hall	314	10	
Jos J Hall	315	10	
And in accordance with law, and an order of the Board of Trustees, made on the second day of May, 1898.			

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Framework; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes; and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

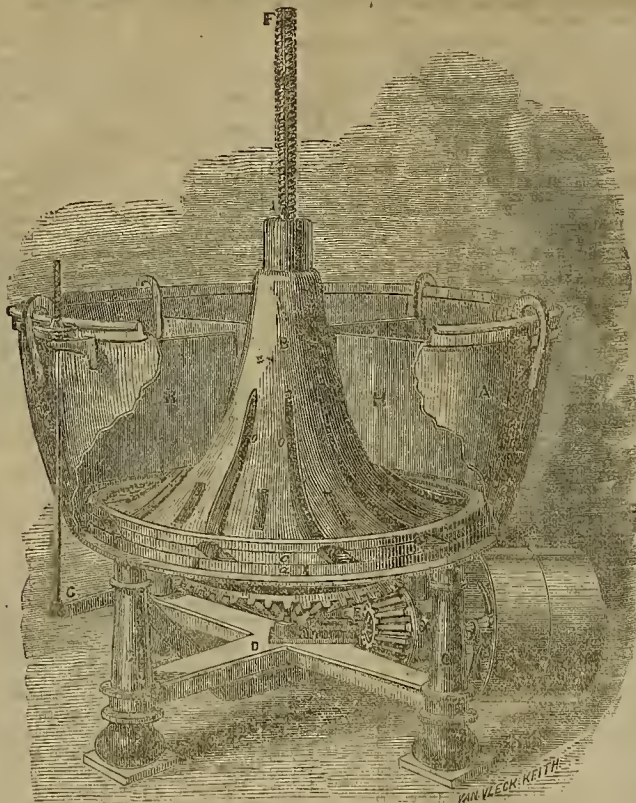
Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been burished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior." As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery, and the muller, which is curved, plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,** 1st San Francisco.

SAVE YOUR MONEY AND BUY, For \$100!

HUNTER'S Premium Concentrator!!
Awarded a Silver Medal at the Mechanics' Fair of 1865.

THE ABOVE MACHINE HAS BEEN RECENTLY IMPROVED and simplified, doing away with all complication and friction, thereby requiring less power and speed. As improved, 125 revolutions per minute is the regular speed required, but any speed varying from 100 to 135 revolutions does not change the results. It is the only machine built on the Pacific coast that is perfectly adjustable for all the different grades of ores, and will save ten per cent. more sulphurets than any Concentrator in use, and is the cheapest, from the following list of prices:

For a single machine of the capacity of five tons in twenty-four hours, as it passes from the battery or pans, \$125. For double machines of two, three, or four tables in one frame, each table of five tons capacity, \$180.

I have been running machines for the past three months at Grass Valley, therefore I make my assertions from a practical working test, where several of the machines are working. Persons desirous of seeing the machines running, can do so at Empire Mill, Grass Valley, where twelve machines can be seen in operation, or in San Francisco, at 118 Washington street, below Davis, where ALBERT JACOBS will fill all their orders promptly.

ANDREW HUNTER,
Inventor.

IRON!

Glasgow Iron and Metal IMPORTING COMPANY,

Nos. 25 and 27 Fremont street, San Francisco.

Keep constantly on hand a large assortment of

Bar Iron,

Boiler Tubes,

Anvils,

Cast Steel, Etc.,

Which they offer to the trade on liberal terms. 18v12-3m

Prater's Patent Concentrator

(Known as HUNGERFORD & PRATER'S Concentrator.)

MANUFACTURED AT THE

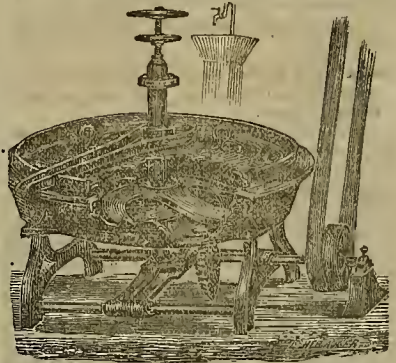
San Francisco Foundry and Steam Engine Works.

Corner Fremont and Mission Streets.

All orders promptly attended to.

2v12 **DEVÉE, DINSMORE & CO.**

BAUX & GUIOD'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1864, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by Baux & Guiod's Pan, are the following: The trifling cost for attendance; Its small cost; Its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping, as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the tritling power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jeffersonian Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada; City of Grass Valley, Nevada; Works, Nevada county; Waltham's Chlorination Works, Nevada; Cal.; Gold Hill Quartz Mill, Washoe; Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hough & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address **J. B. BAUX,** Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 4v3-5d

The Hansbrow Pumps ARE WARRANTED THE BEST.

FIFTEEN KINDS AND SIZES, Adapted for FARM,

Mill and Mining Purposes.

Fitted for HAND, WIND, HORSE, WATER AND STEAM POWER.

For sale in every city and town on the Pacific Coast.

LOCKE & MONTAGUE, Agents,

112 and 114 Battery Street, San Francisco.

Send for Illustrated Catalogue. 23v12-3m

"Safety Cages."

(PATENT GRANTED.)

MINING COMPANIES

WILL FIND IT TO THEIR INTEREST TO ADOPT "Berry, Hochholzer & Denver's Safety Cage" in their hoisting works. It requires very little more work to manufacture than the ordinary style of cages—any blacksmith can make it. It has been PROVED TO BE PERFECTLY SAFE, is self-acting and very light, and will, in the item of rope alone, pay for itself in a short time.

The proprietors refer to the following mining companies, among others, that are now using this Safety Cage:—Gould & Curry, Savage, Ophir, Mexican, Empire, Overman and Justis.

For particulars and terms, apply to

HUGO HOCHHOLZER,

Virginia City, Nevada, Through Wells, Fargo & Co's Express.

15v11

THE SAN FRANCISCO

BOOT AND SHOE NAILING MACHINE.

THIS MACHINE MAY NOW BE SEEN IN DAILY OPERATION at the corner of Stockton and O'Farrell streets, where the inventor may be seen and consulted at all hours.

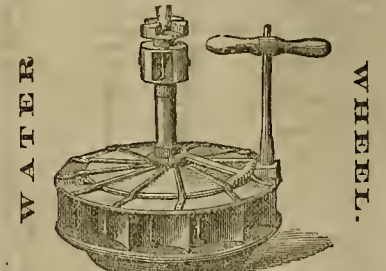
He is especially anxious that Boot and Shoemakers, Mechanics generally, and all persons interested in the success of California inventions and California manufactures, should call and examine this specimen of California ingenuity.

The proprietor is making arrangements for their manufacture in this city, and he is now ready to contract to furnish the machine to such parties as may be desirous to purchase the same.

San Francisco, June 22d, 1865.

E. T. BARLOW,
25v12

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by **KNAPP & GRANT,** 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in mill's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to

KNAPP & GRANT,

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by **KNAPP & GRANT,** 12v12-3m San Francisco.

To Ditchmen, Millmen and Others Requiring **IRON PIPE.**

M. E. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of **IRON PIPE** of every description. He also has on hand a deep well **FORCE PUMP**, of his own invention and manufacture, well adapted for all wells. His tools being portable, pipe can be manufactured on the ground. 19v12

Steam Engines for Sale Low.

DIRECT FROM EAGLE WORKS, NEW YORK, EM-bracing all Made in Improvements, suitable for Mining, Milling, or other purposes. Will be sold at Manufacturers' rates and charges.

Apply to **A. E. CRANE,** 310 Washington Street, up stairs.

STODDARD'S CELEBRATED WATER FILTERS!

PURIFY RAIN, RIVER, OR SPRING VALLEY WATER R perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by

S. B. STODDARD, Corner of Battery and Pacific streets.

June 23, 1865. 25v12-3m

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the **UNION PAN** to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The **UNION PAN** is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by **STRONG & CO.,** San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention. 15v12-3m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which

GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

will soon be more fully described and illustrated in the columns of the **Mining and Scientific Press.**

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALENBURG, 19v12 416 Market street, San Francisco.



FLORENCE SEWING MACHINES!

COPY OF THE REPORT OF THE COMMITTEE OF AWARDS AT THE FAIR OF THE

AMERICAN INSTITUTE,

New York, 1865,

—TO THE—

Florence Sewing Machine Company, FOR THE BEST FAMILY SEWING MACHINE.

HIGHEST PREMIUM—GOLD MEDAL!

REASONS:

- 1st.—Its simplicity and great range of work.
- 2d.—The Reversible Feed Motion.
- 3d.—The perfect finish and substantial manner in which the machine is made.
- 4th.—The rapidity of its working and the quality of the work done.
- 5th.—The Self-adjusting Tension.

The "FLORENCE" was awarded the First and Highest Premium at the State Fair of California, the only Fair on the Pacific Coast at which any two double-thread Sewing Machines were exhibited in competition in 1865.

The "FLORENCE" received the only premium awarded by the Mechanics' Institute of San Francisco, in 1864 and 1865, to any Sewing Machine, Sewing Machine Company, or Agent. The claim of a competitor to a medal is without any foundation whatever.

Wherever the "FLORENCE" has been brought in competition with other Sewing Machines, it has always been declared the best. It is the most simple, the most substantial, the most efficient, and its use is easily learned. Every Machine sold is guaranteed in the full sense of the word.

Send for Circulars and Samples of Work.

SAMUEL HILL, General Agent, 20v12-14w 111 Montgomery street, San Francisco.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by **THOMAS H. SELBY & CO.,** 22v12-3m Nos. 116 and 118 California street

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, our axes, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12-3m

Coal was first used as fuel in London in the latter part of the 13th century. But the smoke was considered so injurious to the public health that Parliament petitioned King Edward I. to prohibit its burning as an intolerable nuisance. He complied, and issued his proclamation against it. The most severe measures were then employed to abolish its use; fines, imprisonment, and the destruction of furnaces and workshops where it was used.

J. B. COX, BUSINESS AGENCY.—Makes private sales of Property and Business Places of every description, in the city and throughout the State; procures partners with large and small amounts of money; negotiates sales of mining property, and does a General Agency Business. Patronage solicited by mail, express, or by personal application at the office, 402 Montgomery Street, San Francisco, California. 2v1111

WE ARE NOW OFFERING
OUR IMMENSE STOCK

Fine Custom Made Clothing

Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of
ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.
A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,
8v10 Cor. of Washington and Sansome streets.

WM. H. KEITH & CO.,
Chemists and Apothecaries,
PROPRIETORS AND MANUFACTURERS OF

WM. H. KEITH & CO'S WINE OF PEPSINE, OR REN-
net Wine, a new and efficacious remedy for Dyspep-
sia, Gastralgia, etc. WM. H. KEITH & CO'S GLUCOLEIN,
a new and valuable compound of Cod Liver Oil, put up in
glass jars. WM. H. KEITH & CO'S LEMON APERIENT,
or Purgative Lemonade, an agreeable cooling and active
purgative, or mild laxative as required. WM. H. KEITH
& CO'S SAPONACEOUS TOOTH POWDER. DEVINE'S
PITCH LOZENGES, for the cure of coughs and colds.
WM. H. KEITH & CO'S Florentine Tooth Wash. WM. H.
Keith & Co's Eucalypti Effervescent Citrate of Magnesia.
WM. H. Keith & Co's Rosemary and Castor Oil Hair In-
vigo ator.

WM. H. Keith & Co. being in frequent communication
with Eastern and European markets, are continually re-
newing their stock of Pure Drugs, Rare Chemicals, Fancy
Goods, and Toilet Articles, Pure Oils, etc. They also give
special attention to replenishing ship medicine chests.
Also, just received a large and well-selected invoice of
BERNSTEIN'S CELEBRATED INSTRUMENTS, consisting
in part of Amputating and Obstetric sets, Pocket Cases, etc.
Plydians, and others at a distance ordering goods from us,
can depend upon having their orders filled with the
same regard to quality and price, as though obtained in
person, and we give particular attention to packing and
forwarding the same.

WM. H. KEITH CO.,
Apothecaries' Hall, No. 521 Montgomery street,
Between Clay and Commercial, San Francisco.

Cotton-Filled Gum Belting,

3, 4, and 5-Ply,
FROM 4 TO 22-INCH,
IN LIBERAL SUPPLY.

FOR SALE BY
GILLIG, MOTT & CO.,

Corner C and Taylor streets,
VIRGINIA, NEVADA,

—AND—
Nos. 148 AND 150 J STREET,
19v12 1f SACRAMENTO, CALIFORNIA.

BLAKE'S
QUARTZ BREAKER
Is now extensively used for breaking hard masses of
Quartz or Ores

To a size suitable for stamps. These machines are patented,
and are in practical operation in
CALIFORNIA, AUSTRALIA,

ENGLAND, WASHOE, FRANCE,
—AND—
THE ATLANTIC STATES.

These Machines, or circulars containing further information
regarding them, may be obtained of the undersigned.
Address,

BLAKE & TYLER,
Box 2077 San Francisco Post Office.
CHAS. T. BLAKE, E. TYLER, WM. F. BLAKE,
Idaho City, Michigan Bluff, San Francisco.
4v10

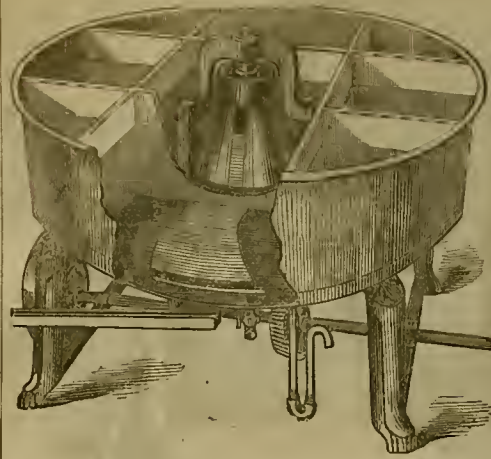
GOLVIN'S
American Cow Milker.

A FEW SAM-
ples of this nov-
el and useful
invention have
arrived by the
last steamer,
and are now of-
fered for sale by
an agent in this
city. It was
illustrated and
described in the
MINING AND SCIENTIFIC
PRESS OF
MAY 12. The
actual opera-
tion of the Milker
has already
been demonstrated in this State. The machine may be seen
at this office, where further information can be gained.
June 20th, 1886.

Fig. 2

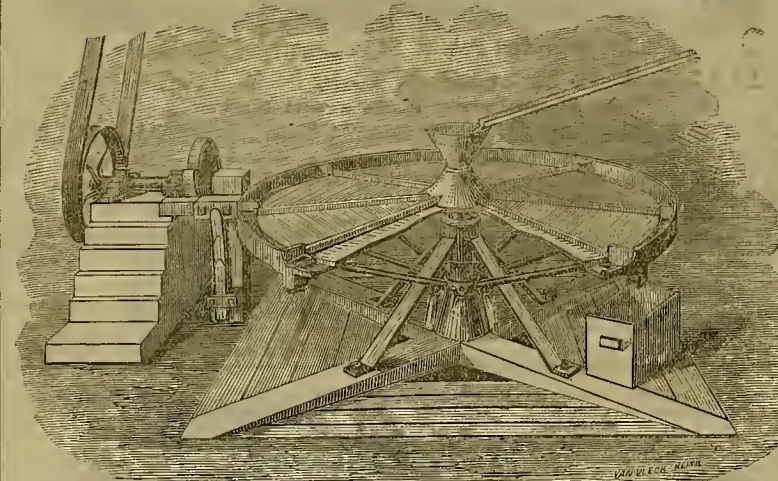
Knox's Improved Patent Amalgamator and Separator,

With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of
ISRAEL W. KNOX, or
W. A. PALMER, Inventors,
At the Golden State Iron Works, No. 19 First street, San Francisco.

VARNEY'S CONCENTRATOR,



With a disk 4 1-2 feet in diameter—total weight of Machine 350 pounds.
Is driven by one-eighth of a horse-power, and will concentrate eight tons of ore per day, and make the sulphur
clean. Larger ones do work in proportion to size.
IT CAN BE SEEN IN OPERATION AT THE PACIFIC IRON WORKS, SAN FRANCISCO. 22v12-3m



REMINGTON'S ARMY AND NAVY REVOLVER,

THE REMINGTON REVOLVER

Has been approved by the United States Board of Ordnance, and has so satisfactorily
met the requirements of the Government, not only in the field, but in the official
tests and examinations made by prominent officers of the Ordnance Department,
that it stands at once the most popular, serviceable and approved arm of the kind in
use. Upwards of 15,000 have been supplied to the Government within the past four
years, for the land and naval service, furnishing ample evidence of the estimation in
which the arms are held.
Simple and symmetrical in its entire construction, securely strong, of most modern
improvement in mechanism and material; its unequalled range and penetration, to-
gether with its durability, are points in its favor now well known, and which challenge a comparison with any other
pistol of the kind made in this country or in Europe.
The superior strength and capacity of the arm for constant and long use is apparent from the fact that the entire
frame is constructed of a single piece of metal, thus preventing the extension of some portions of the frame, from the
effect of firing—a serious defect in many pistols—in which the frame is composed of two or more parts.
The frame of the Remington Revolver furnishing a support above the cylinder, served to protect the
base pin (on which the cylinder revolves) from any undue strain to which it would otherwise be subjected, and which
would immediately render the line of fire from the cylinder to the barrel imperfect, thus destroying force and accuracy.
Another advantageous feature of the arm is the means afforded for the instantaneous removal of the cylinder from
the frame. This not only facilitates the cleaning of the pistol, but by the quick adjustment of the cylinder, one pistol
can be made as effective as two—and, considering the difference of weight, it is far preferable—by simply possessing a
spare cylinder loaded and capped to instantly replace the exhausted one.
The above is a general summary of the points of merit in the Remington Revolver which a trial of the arm
is only needed to attest. For sale at Manufacturers' rates, by

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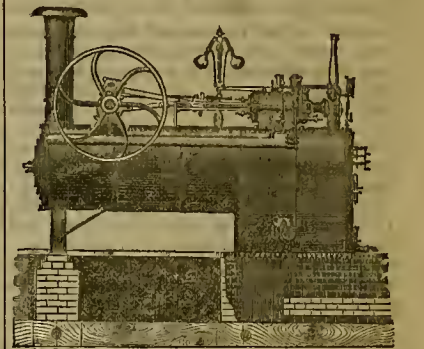
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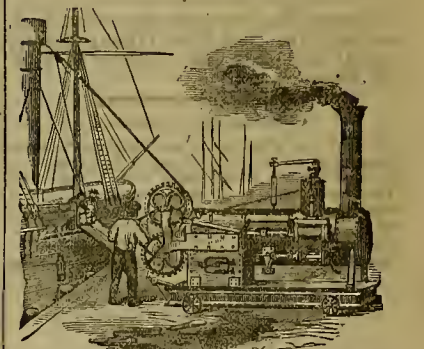
"Hoadley's" and "Hittinger's" Make,



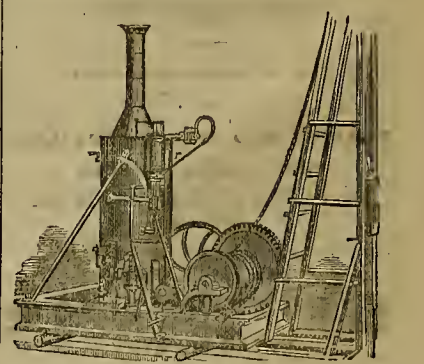
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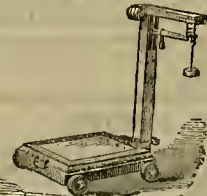


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These Engines are favorably known, a large number
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fact, the portable principle is the pioneer's friend, and en-
ables him to draw engines on their own wheels, to his cabin
door, and plant on the outermost confines of civilization
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to help subdue the continent than any other of the modern
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taining a description of the machine.

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23v12 4f No. 402 Montgomery St., Room 3, 4th Floor, S. F.

CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

CHRISTIAN ANDERSON, of West Point, sends us a specimen which he supposes to be tin ore. The sample resembles very closely "red hematite," a valuable ore of iron. We shall test it thoroughly and report.

MR. SCHREIBER, of Sacramento City, sends us a specimen from the Mountain Quartz Mine, El Dorado City. It was taken from a depth of 100 feet, and contains a large percentage of very fine looking sulphurets.

THE NINETIETH ANNIVERSARY of the independence of our country has come and gone. These anniversaries ever bring with them grand and interesting associations and reflections, calling forcibly to mind the great struggle in which our fathers and grandfathers were engaged, in the memorable contest which resulted in the separation of our country from its colonial dependence upon England. The great principles involved in that contest, and the indomitable perseverance and determination with which they were defended by a weak and scattered people against a great and powerful nation, have made that struggle one of the most memorable in the history of the world.

Of these anniversaries, the one which we have just celebrated is especially to be remembered. It was the occasion of a double rejoicing: first, for the original acquisition of the Independence of our beloved country; and second, for the happy termination of the dreadful struggle which we have just passed, in which we have so triumphantly vindicated the same principles which were at stake when our forefathers fought for that acquisition. The weather on Wednesday was unexceptionable. The procession, the literary exercises of the day, and the magnificent display of fireworks in the evening, were creditable to San Francisco and to the occasion.

CREDIT.—The article on our eleventh page, entitled "The New River (Trinity County) Mines," should have been credited to the *Trinity Journal*.

Change in Prices.

Single Copies of the MINING and SCIENTIFIC PRESS will hereafter be sold at FIFTEEN (15) CENTS. By City Carriers, 60 Cents per month; Monthly Series, 65 Cents. The rates of Yearly Subscriptions, at the office of publication, remain as heretofore—\$5 per annum. The price to News Agents will be advanced 1½ cents per copy. Agents in the Interior supplied. June 30, 1866.

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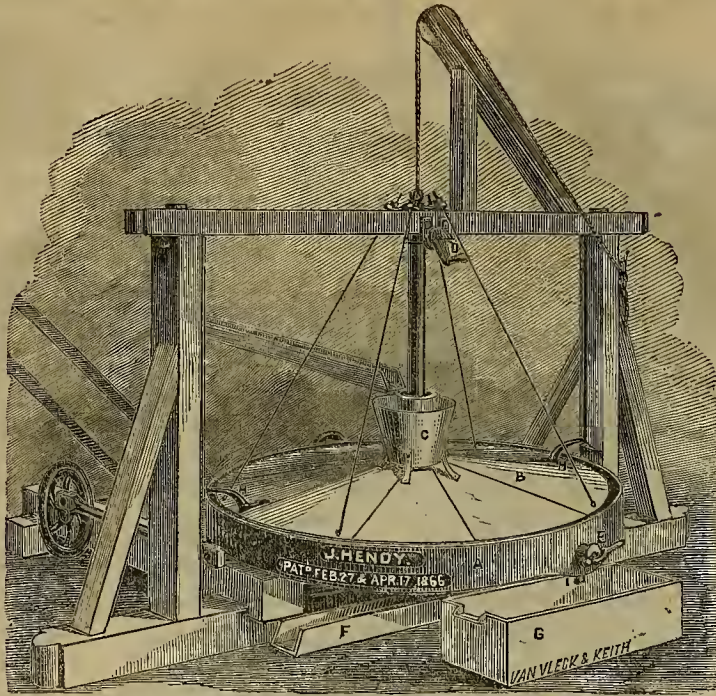
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NOTICE TO QUARTZ MINERS.



Hendy's Improved Patent Self-Discharging Sulphurets PRATER CONCENTRATOR Is Receiving Universal Favor.

Reference is made to the following Mills which are using the Prater Concentrator, with some of the improvements attached. The Self-Discharging Sulphurets has been more recently adapted, and the public attention is called to examine its workings:

STEPHENS' MILL, Humboldt County, Nevada.
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UNION MILL, El Dorado County, near Mud Springs.
NEW YORK AND EL DORADO CO., " "
And in use in other parts of this State; also in Idaho, Arizona, Colorado and Mexico.

As a further evidence of its worth, orders have been received recently from the proprietors of the following mills, all of whom are using these Concentrators, or have works in the immediate neighborhood of mills using them, viz.: One Concentrator ordered for the Coney Mill, Jackson, Amador County, by Messrs. Bigelow & Bro., of this city. Three Concentrators for the Spring Hill Mill, Volcano, Amador County. Two Concentrators for the Golden Gate Mill, Volcano, Amador County. Four Concentrators for the Raw Hide Ranch Mill, Sonora, Tuolumne County. Eight Concentrators for the Benton Mill, Bear Valley, Mariposa Co., ordered by Messrs. Dodge & Bro., San Francisco. They may be seen in operation at the GOLDEN STATE FOUNDRY, No. 12 First Street, San Francisco.

For explanation of the above engraving, and other particulars, send for a Circular.

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SAN FRANCISCO, SATURDAY, JULY 14, 1866.

VOLUME XIII.
Number 2.

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MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

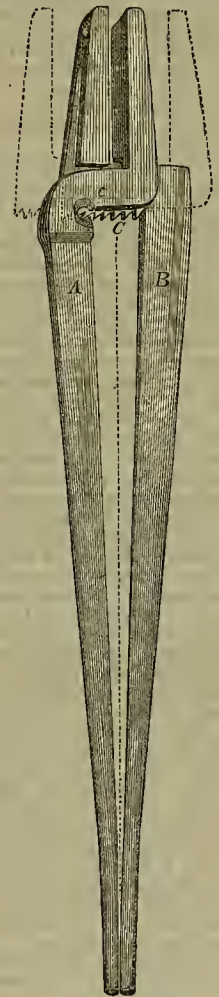
NAME	AMT OF ASSESSMENT	DAY	DAY
Antioch F. Petrol. Co., Contra Costa Co., \$2—July 30—Aug 20			
Arizona Con. M. Co., \$50—Aug 3—Aug 20			
Assurance M. Co., Monterey Co., \$50—Aug 1—Aug 20			
Arizona Copper Co., Arizona Terr., \$10—July 24—Aug 13			
Arizola, Santa Clara Co., \$10—July 12—Aug 13			
Alpha, Gold Hill, \$50—May 25—June 25			
Alameda Coal M. Co., \$2—June 27—June 28			
Big Blue Lead O. & S. M. Co., Tulare Co., Ann. Meet. July 19			
Boston Copper, \$50—June 22—July 18			
Blue Lodge O. & S. M. Co., El Dorado Co., \$1—July 11—July 19			
Bunker Hill G. & S. M. Co., El Dorado Co., \$1—Aug 11—Aug 23			
Oortox O. & S. M. Co., Cor. Dis. Nev., Ann. Meeting Aug 10			
Cosala S. M. Co., Sinaloa, Mex., \$1—June 20—July 17			
Crocket Con., Esmeralda Co., \$1—June 20—July 17			
Capitol, \$10—June 12—July 2			
Cole, Silver, \$1—June 11—July 5			
Confidence S. M. Co., Storey Co., Nev., \$25—July 10—July 31			
Crown Point, dividend \$30 ft., Payable June 15			
Confidence S. M. Co., Storey Co., Nev., div. 10 p. c., Pay July 9			
Diana G. & S. M. Co., Lander Co., Nev., \$5—July 20—Aug 10			
Daney O. & S. M. Co., Lyon Co., Nev., \$5—July 14—Aug 6			
Eagle Quartz M. Co., Amador Co., \$1—Aug 18—Sept 5			
Eagle, Austin, Nev., \$1—June 18—July 6			
Exchequer M. Co., Storey Co., Nev., \$2—July 31—Aug 15			
El Tasse S. M. Co., Sra., Mex., \$2—Aug 10—Aug 23			
Ethau Allen O. & S. M. Co., Annual Meeting Aug 6			
Francisco-American S. M. Co., L. C., \$1—June 19—July 10			
Great Central M. Co., Arizona Terr., \$1—Aug 3—Aug 27			
Gold Hill Tunneling Co., S. M. Co., Alp. Co., \$1.50—July 25—Aug 19			
Gold Hill Tunneling Co., S. M. Co., Alp. Co., \$1.50—July 25—Aug 19			
Gould & Curry, dividend \$30 ft., Payable June 8			
Golden Rule M. Co., Annual Meeting July 10			
Humboldt Canal Co., Annual Meeting July 19			
Lansdown Copper, \$30—June 22—July 18			
Hale & Norcross, dividend \$30 ft., Payable July 14			
Imperial G. & S. M. Co., dividend \$10 sh., Payable May 10			
Keystone M. Co., Calaveras Co., \$11—June 23—July 14			
Leland, Arizona, \$50—June 30—July 16			
Lady of the Lake, Arizona, \$50—June 30—July 16			
Lady Bell, Low Divide, Cal., \$1—June 16—July 5			
Bryan, \$1—June 30—July 16			
La Victoria G. & S. M. Co., Mariposa Co., \$1—Aug 13—Sept 4			
Mina Rica de las Flores, \$1—June 19—July 16			
Morling Star G. & S. M. Co., Alpine Dis., \$1—July 23—Aug 8			
Mount Davidson G. & S. M. Co., Annual Meeting July 11			
Morling Star G. & S. M. Co., Alpine Dis., \$1—Aug 13—Sept 4			
Nuestra Sra. de Guadalupe Co., Mex., \$1—July 9—July 31			
Nonpareil G. M. Co., Tuolumne Co., \$1—July 9—July 31			
North American Tin, Durango, Mex., \$40—July 20—July 31			
Naceros G. & S. M. Co., Mex., \$50—Aug 15—Sept 3			
Opil of the Colorado, Arizona, \$50—June 28—July 16			
Peckham S. M. Co., Storey Co., Nev., Ann. Meeting July 12			
Peninsula M. Co., San Antonio Dis., \$10—Aug 3—Aug 12			
Patrolista and Dolores S. M. Co., M., \$1.25—July 21—Aug 16			
Refugio M. Co., Mex., \$5—July 16—Aug 10			
Rogers S. M. Co., Storey Co., Nev., \$2—July 12—July 28			
Santa Cruz Pet. Oil Co., \$50—Aug 7—Aug 28			
San Marcel S. M. Co., Mex., \$50—Aug 1—Aug 22			
Sweet Vegeance G. & S. M. Co., Yuba Co., \$1—July 22—Aug 15			
Sapphire, Storey Co., Nev., \$5—June 28—July 17			
Silver Queen, Lander Co., Nev., \$1—June 23—July 23			
Schubert Copper, Tuolumne Co., \$1—July 10—July 31			
Sierra S. M. Co., Douglas Co., Nev., \$1—July 25—Aug 15			
Savage M. Co., Annual Meeting July 10			
Santiago M. Co., dividend \$30 ft., Payable July 7			
Sweet Vegeance G. & S. M. Co., Yuba Co., \$1—July 22—Aug 15			
Triunfo O. & S. M. Co., L. C., \$1—July 12—July 25			
Triunfo O. & S. M. Co., L. C., \$1—July 12—July 25			
Telemachus G. & S. M. Co., Ann. Co., \$2.50—July 12—Aug 2			
Telemachus G. & S. M. Co., Ann. Co., \$2.50—July 12—Aug 2			
Union Natole Oil Co., Humboldt Co., \$5—July 16—Aug 20			
Yellow Jacket S. M. Co., div. \$10 sh., Payable July 15			

Those marked with an asterisk () are advertised in this journal.

A COSTLY RAILWAY.—The Charing-cross Railway, London, only about two and a quarter miles long, cost about \$20,000,000.

IMPROVED BLACKSMITHS' TONGS.

Every blacksmith or other person who has been in the habit of using blacksmiths' tongs, has often felt the inconvenience of changing from one instrument to another, as is requisite in handling iron of different thicknesses. The object of the invention herewith illustrated is to obviate that necessity, which purpose is accomplished by making the tongs adjustable, so that the same instrument may be used con-



stantly. This is done by constructing a ratchet of hooked teeth, as represented at C, on the part, B; and by a tooth, c, on the part, A, which locks into any tooth of the ratchet, according to the size of the iron to be held. The two parts of the tongs can in a moment be separated when necessary; and the construction is very plain and simple. The finished engraving shows the tongs set to hold a small object; and the dotted line shows them set wide open, to hold a large object. A patent was taken out for this invention on October 24, 1865, by C. W. Le Count, of Norwalk, Conn.

John C. Graff, 225 Front street, New York city, is sole agent for the inventor, and is ready to furnish them in any amount to the trade.

MINING REVIEW.—The semi-annual review on pages 21 and 22, is presented in this issue, in addition to our usual amount of reading. We are indebted to the proprietor of the *Mercantile Gazette and Prices Current* for the type and composition of the same.

The Annual Report of the Golden Rule Mining Company.

[SUBMITTED JULY 17, 1866.]

To the Stockholders of the Golden Rule Mining Company of Tuolumne County:

The annual meeting was advertised for June 10th, but no quorum being present an adjournment was advised for thirty days, when it is hoped a full quorum for business will be present. The report of the Secretary was submitted for the fiscal year of the company, ending June 30th, 1866, being the third year of our workings, since which time we have run a tunnel 509 feet through solid rock, cutting four large quartz veins, upon one of which only we have done any work. The tunnel gives a drainage eighty-three feet on the vein below the surface. We have also run a drift north on the vein 300 feet; also sunk a shaft 76½ feet below the drift, being 150 feet from the surface. The vein is a talcose slate and quartz mixed, of from ten to six feet wide. The present prospects of the mine are good, and it is hoped that the existing debts will be paid off during the coming year, and that the stockholders may receive small dividends, besides paying for further improvements in hoisting machinery, etc. The present superintendent, Mr. A. S. Phifer, to whose energy, perseverance and economy for the past three years the company is indebted for their success, is still with us. Our new water mill, of fifteen stamps, since the 19th of March, has been running principally on waste rock, of which he had some 2000 tons; this rock having been rejected as too poor to work in our small, old 5-stamp mill. Our average from this class of rock has been about nine dollars per ton, including what rock we took from the new shaft in sinking. The average number of men employed during the year is thirteen.

CRUSHING DURING THE YEAR—FROM JULY 1, 1865, TO JULY 1, 1866.

	Rock Crushed.	Ounces of Bullion.	Amount.
July, 1865	67	287	\$4,721 85
August	66	220½	\$3,769 24
September	65	263	4,393 60
October	41	117	1,950 63
November	46	87½	1,424 07
December	54	68	1,105 65
January, 1866	45	146½	2,568 73
February	148	101	3,159 89
March	230	141½	2,355 00
April	330	181½	2,795 17
May	170	81	1,372 31
Total	1,318	1,817½	\$30,511 62
Average yield per ton			23 19

The substance of these figures and report is, that there has been earned and divided to the stockholders a dividend of two dollars per share on 3,000 shares—\$6,000; having also completed a new 15-stamp mill and a water-ditch and reservoirs three miles in length, and all paid for out of the proceeds of the mine, less the present amount now owing—\$2,608.

The present Trustees of the company are—J. H. Tunney, J. T. Boyd, D. D. Shattuck, R. L. Pasture; President, Wm. Bosworth; Secretary, J. B. Russell.

No assessments have been levied the past year, and no revenue derived from any source except the yield from the mine.

Amount of Cash on hand July 1, 1865, \$3,465 05
The total yield of bullion has been 1,817½ ounces, netting in coin, \$30,511 62

Total 34,036 67

DISBURSEMENTS.

To Stockholders' account on dividends, Nos. 1, 2, 3, 4, 50c. per share.	\$ 5,743 73
To Mining account for labor, tools, timber, etc.	16,760 40
To account of New Mill of 15 stamps, paid.	10,604 35
To expenses account for Secretary's Salary, Rent, Traveling Expenses of Trustees, Express Charges, etc.	923 03
Liabilities at present time—	
Debt on New Mill account.	\$2,408 00
Debt on Mining account.	200 00

\$2,608 00

GEOLOGICAL EXPLORATION OF SONORA, MEXICO.

Messrs. Cummings and James Cherry passed through this city, a few days since, on their return to the East from a seven months' tour in Sonora, Mexico. These gentlemen were sent thither by certain prominent politicians and capitalists, who represent "the power behind the throne" at Washington, and who feel an interest in the future of that portion of Mexico. The object in view was to secure such reliable knowledge of its mineral and agricultural wealth and general features as would meet the desire for such knowledge among our people at the East. They had, also, other missions of less importance—to select and locate mineral and other lands under grants from the Government, and to examine into certain mining possessions for London capitalists, and to inquire more clearly into the merits and management of a number of the most noted mining enterprises of Southern Arizona and Northern Sonora. They informed us that they met with a most unexpected degree of success in all their missions, notwithstanding their explorations were necessarily carried on under many deprivations and in much danger from the unsettled condition of the country. Much of their time was necessarily spent beyond civilized habitations, and in the midst of the dreaded Apaches, in a region of country hitherto but little explored; yet quite as much risk and uncertainty was experienced among both Imperial and Liberal armed forces, as among those dreaded savages.

THE WELCH QUICKSILVER MINE.—The annual meeting of the Welch Quicksilver Mining Company, situated at Mount Diablo, was held at Clayton, on Saturday, the 7th instant. About 3,600 shares were represented, and the meeting resulted in the election of a new Board of Trustees, and by a two-third vote it was decided to remove the office of the company to San Francisco. The office will hereafter be located at the corner of Clay and Battery streets. The affairs of this mine are in a good condition. Two shafts are being put down, one of which is sunk near forty feet, and the other about sixty, both of which are yielding good pyrite. There is also a tunnel being run to strike the vein some 200 feet below the croppings. The tunnel is now in about 160 feet, with good evidence of close proximity to the lead. A statement by the Treasurer of the company was made, which showed that over \$5,000 had been received from quicksilver taken from the mine since March 1st. A remark was made by an English engineer upon this, showing that if the mine was situated in Europe the stock would now be at par.

ASSAY OFFICES.—The House Committee on Mines has reported a bill to establish offices for the assay of gold and silver at Portland, Oregon, and Boise City, Idaho. It also repeals the act establishing a Branch Mint at Dalles City, Oregon. It will probably pass.

PEPPERMINT.—It appears from the returns of the Internal Revenue Department that \$90,000 worth of essence of peppermint was manufactured in the State of Michigan during the year 1865.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Source of the Electric Current in the Voltaic Battery.

BY EDWARD PIQUE.

[Continued from Page 2.]

I copy now the facts as explained in Smee's Metallurgy:

1. Zinc reduces zinc by taking a piece of the metal and doubling it. One-half is then to be amalgamated, and placed in dilute muriatic acid, and the unamalgamated into a strong solution of chloride of zinc, made as neutral as possible, when its affinity for the chlorine of the muriatic acid is sufficiently great to cause zinc to be reduced at the other end of the same piece of metal.

2. Copper reduces copper; for if a test tube be half filled with sulphate of copper, and then muriatic acid be poured gently at the top, so that the two fluids do not mix to any great extent, and a copper wire be then placed throughout the whole length of the tube, the copper in the acid will rapidly dissolve, whilst copper will be deposited at the lower part of the vessel. Copper will undergo no action alone, either in muriatic acid or sulphate of copper.

3. Silver reduces silver by placing one end of a silver wire in a porous tube containing nitrate of silver, the other in dilute sulphuric acid, though the metal placed in either separately is not affected.

4. Lead reduces lead by immersing one end of a piece of lead in a solution of the trinitrate of lead, the other in dilute nitric acid.

5. Tin reduces tin by placing one portion of a piece of metal in muriate of tin, the other in muriatic acid.

6. Gold even reduces gold by immersing one end of a gold wire in the chloride, the other in dilute muriatic acid, the two solutions being separated by a porous diaphragm.

Mr. Smee concludes with the following ultimatum:

"From the various experiments which I have examined, voltaic effects may be defined to be 'certain effects produced by the chemical action of a body on one element of a compound, and manifested between this point of action and the evolution of the second element.'"

I must confess I do not quite understand this final definition. There is some kind of mystery in it. Besides, all those above facts of metals reducing metals of the same kind, instead of proving a chemical action to be the source of galvanism, just straight-forward prove the very contrary.

I would like to know where the chemical action is. If we immerse gold in muriatic acid, and leave it there for a year, it will not dissolve; but if we separate muriatic acid and a solution of chloride of gold by a porous diaphragm, and cause a gold wire to dip simultaneously in both solutions, only then one end of the gold wire will be dissolved in the muriatic acid, during which the other end of it appears electronegative, and reduces the gold from its solution. But there was no chemical action until the two fluids have been connected by a metal.

There is no chemical action between amalgamated zinc and dilute muriatic acid, neither is a chemical action between copper and silver and dilute sulphuric acid, etc.; and as there certainly is no chemical action going on in the beginning between the metal and either of the two solutions, we cannot ascribe any effect to anything that does not exist.

I certainly believe the contact theory to be the only one that can throw light upon this matter; meaning not only the contact of two metals, but the contact of any two conducting bodies of a different nature, so that a galvanic battery might consist of two metals, or two fluids, or one metal and one fluid, etc.

Before arriving at any final conclusion, I wish to copy from Dr. Scholz's work a few interesting facts. He gives first a description of a galvanic pile, constructed by Zamboni, consisting of a number of watch-glasses filled with water, and connected by pieces of tin-foil in the shape of a disk, with a strip attached to it, so that the disk or wide part of the tin-foil rests in one glass, but the tail or strip dips in the water of the next watch-glass; the first disk shows positive, and the last little tail negative electricity.

But more interesting than this is the following fact, as stated by Dr. Scholz: "If we pour water gently on the top of the sulphuric acid, to prevent their intermixing, and immerse a platinum wire through both these fluids, electricity will be visible by the decomposition of the water." The first experiment with tin-foil and water shows only that neither two metals nor two fluids are necessary to produce galvanic electricity, and that the contact of any two bodies will generate this power, provided they are conductors. But the last experiment with *platinum water and sulphuric acid* is an incontestible and positive proof that no chemical action is required to produce galvanic power. This little experiment speaks volumes. Platinum, the noblest metal, which, certainly, is not the least acted upon by sulphuric acid, neither dilute nor concentrated, neither warm or cold, neither in a long nor a short space of time, still produces galvanic action when immersed in water and sulphuric acid; and I really believe that galvanic power could be produced by a proper arrangement of platinum and nothing but water.

I wish to mention here a little fact, which seems to me an additional proof that electricity is the cause of the action in a galvanic battery. It has been stated as a law that in a compound battery the amount of action in every single pair is precisely the same, following the proportions of chemical equivalents, and that the electric and chemical action is going on in every vessel proportionate to each other. Now, if we construct a compound battery of three or four pairs, and decompose by its means a solution of the auro-cyanide of potassium, using as positive pole a piece of platinum; this will by no means be chemically acted upon, and still the gold will be deposited on the negative pole in the same proportion as if the positive pole had been a piece of gold which would have been dissolved.

Now, we certainly cannot speak of a chemical action on the platinum, and the gases that are evolved on it are only the consequence of the electricity and deposition of metal on the negative pole. I shall now, in a few words, recapitulate the reasons I have given that electricity is the cause of galvanic action, and that chemical changes are only the consequence of it:

First Proof.—Two metals produce electricity by contact.

Second Proof.—In a battery there is no chemical action of any kind until all the connections are made.

Third Proof.—The action commences on the negative plate, as I have shown, that in a protected sulphate of copper battery the copper solution becomes exhausted, and the zinc solution saturated.

Fourth Proof.—We obtain the most power when the negative plate is larger than the positive.

Fifth Proof.—Platinum as positive pole in any metallic solution will not be chemically acted upon, and still the metal will be deposited on the negative plate.

Sixth Proof.—A battery, according to Dr. Scholz, can be made by pouring water gently on the top of sulphuric acid, with nothing but a platinum wire passing through both liquids. This proof alone is sufficient to show the fallacy of the chemical theory of the pile.

In conclusion, I will now give my ideas about the reason why the contact of two metals produces electricity, and after that the influence of the electricity so produced on different solutions.

The great Franklin and some other philosophers, stated that there is only one kind of electric fluid which is intimately connected with every thing in nature. This electric fluid does not manifest itself to our senses by any phenomenon, as long as all the bodies possess a certain proportion of it assigned to them by nature, but which causes very astonishing effects if the electric fluid in any matter becomes accumulated beyond its ordinary point of saturation, or if the bodies are deprived of a part of the electricity which they commonly possess. In the first case they said the bodies are charged with *positive*, and in the latter case with *negative* electricity. In either case they called them *electrified*, believing that the *positive*, having more electricity than they require, strive to part with the excess of it to the surrounding bodies, and the *negative* being in want of it, try to deprive the surrounding bodies of what they themselves need; and in this way both kinds of electricity produce visible effects, in many respects resembling each other, although in some ways entirely different and contrary. According to this doctrine, we might say that, for instance, copper has within the same space a larger quantity of electricity than zinc according to their nature. In consequence the electricity must be in the copper in a more compressed state than in the zinc.

Now, if brought into contact, both being good conductors, it does appear likely that the electricity in these two metals tries to equalize its tension in the same way as caloric will do by the contact of a hot and a cold body, if they are good conductors of heat. The copper having a larger amount of electricity will give a part of it to the zinc. If such is the case, the zinc will receive a larger amount of electricity than is consistent with its ordinary state, and the copper will be deprived of it, so that both of the metals will be in a kind of unnatural state, in consequence of the disturbed equilibrium, making the copper negative and the zinc positive electrified. Now, it appears to me the action of these two differently electrified metals on anything interposed between them must be an *induction of electricity or polarization*, so that the part of the fluid touching the negative plate will assume positive, and the opposite end of the fluid near the positive plate, the contrary electricity.

If, instead of a fluid, a solid body, for instance, a metallic cylinder, would be subjected to the influence of electricity by induction, the opposite ends of this cylinder would assume contrary electric states, but no material change would take place on account of the immovable condition of the particles of a solid body. With a fluid it is different, as the opposite ends will not only assume contrary electricity, but an actual transfer of the constituents will take place, so that a column of water, whose electric equilibrium has been disturbed, would, on one end touching the negative plate, actually have one atom of hydrogen laid bare, and on the other end the corresponding equivalent of oxygen. But even this fact would not account for the evolution of the two gases, because the electricity will be *disguised*, and the attraction between the electric fluid of the metallic plates, and the contrary electric state of the liquid touching them, would rather prevent than cause the evolution of the two gases.

To explain this fact, we must consider what kind of fluids are capable of being decomposed by galvanic electricity.

Neither a fluid that is a perfect conductor (like metals), nor a fluid that is a perfect insulator of electricity (like oil), are capable of being decomposed by voltaic action; it must, necessarily, be a liquid that is neither a perfect conductor nor an insulator; it must allow the electricity to pass, at the same time putting an obstacle to its passage.

Now, what will be the consequence of this? It must be that a part of the electricity will actually pass and produce polarization and a transfer of the opposed constituents of the fluid to each end of it touching the poles. At the same time, another part of the electricity being stopped in its passage, will accumulate at the plate where it comes from, and will, for instance, as the negative plate connect with the hydrogen, which has been transferred to it by induction, charging the hydrogen with negative electricity, making it unfit to remain any longer connected with the oxygen. It will, therefore, leave its connection, and either escape or reduce some oxide contained in the solution.

But, now, the negative plate by this operation has spent all the free electricity imparted to it by the contact with the positive metal, and it cannot receive any fresh supply from it, unless the tension of positive electricity in the zinc is removed, so as to reduce it to its normal electric state. This is simply accomplished by the chemical connection of a part of the zinc with the free equivalent of oxygen in its vicinity, after which the remaining zinc will be in its natural electric state, and be able by contact to impart a new portion of negative electricity to the copper, and so forth. If there would be no dilute acid to dissolve the oxide of zinc thus formed, the action would soon cease, on account of the oxide encrusting the surface, and preventing any further connection between the zinc and oxygen to take place.

In confirmation of this idea, I wish to mention one single fact out of a thousand similar ones. If we mix hydrogen and oxygen together, they will not form a connection, not until we pass an electric spark through the mixture, when they will immediately unite, forming water.

I believe that by the electric spark we impart to the hydrogen the proper condition to unite with the oxygen, and we might just as well say that by charging the hydrogen in the galvanic battery with negative electricity, we make it unfit to remain any longer connected with the oxygen, and it has to leave it, being now in the same condition as it was before the connection. The same reasoning might be applied to the metals contained as oxides, chlorides, and so forth, in the different solutions.

In writing the above article nothing influences me but a desire to seek the truth, and I should be very thankful if any natural philosopher would either approve or improve or contradict my notions, as either will be productive of clearing up truth, and I believe that the theory regarding the source or origin of the galvanic power should be positively settled before we can expect to derive any great practical benefit from it.

[Written for the Mining and Scientific Press.]

The Black Rock Mines.

EDITORS PRESS: The Black Rock country has often been mentioned in your paper, and in other local journals, and consequently your readers are quite familiar with its locality.

Various statements have been published as to the value of the mines discovered in that section of country; but they are all so contradictory of each other that the public at present does not know what to believe; or whether the reported rich mines are to be found there or not.

Whatever these reports may state, we must take them for what they are worth, and admit facts only in forming our judgment. Numerous assays have been made here, and in other parts of the Pacific coast; some assayers have been very fortunate; others have failed to obtain either gold or silver at all. This has been especially the case with some San Francisco assayers, and of course the Honey Lake Valley people say we don't know how to assay here. I have assayed more than 100 samples from Black Rock, and I am sure that seventy-five out of the number have contained gold and silver, from a low percentage up to \$900 per ton. I have also worked several small lots and obtained equally good results, and I am sure if the same kind of ore had been handed to other assayers, they must have discovered the presence of the precious metals.

The lodes or ledges in Black Rock are from twenty to sixty feet wide, and some strikes in those veins are very rich, and I think that half of those which came under my observation will pay for working. In none of the lodes have they sunk more than five feet, and for croppings I think the prospects are as good, if not better, than those from any district ever discovered in Nevada.

The people of Honey Lake Valley did not spare any time or money to prospect that district thoroughly, and especial credit is due to Mr. Harvey for his perseverance and endurance in testing the value of these mines. Beside the assays and small lot operated on, the ore has now been tested by actual working, and I have at present a bar in my possession which has been extracted from 3,800 pounds of ore at Captain Dall's mill, in Washoe Valley. The ore was from the Merrimack ledge, and paid \$48.85 per ton in gold and silver (of which 20 per cent. is gold). Another lot from the Monadnock paid \$256. These facts show that there are silver mines there. When we consider that the ore worked was not selected, and in no instance was taken more than two feet from the surface, these reports are very encouraging. It is hard to select this ore, as it looks all alike, rich and poor.

I have no further interest in the matter, than to verify the assertions made that the Black Rock mines are real mines and no fiction; and I think that before this summer closes, we shall have several mills there, and have another field opened for capital and enterprise.

J. MOSHEIMER.

In the streets of Paris, as in many other European cities, the traveler will see people seated at tables in out-of-the-way corners and shady nooks, who practice occupations which are never followed in the open streets with us. A very common person is the man who writes and directs letters for those who cannot write themselves. Another practices cobbling, and still another tells you by a rough sign-board, and by word of mouth, that he will pull your teeth at low rates—two cents for a front tooth, and three cents for a back one. (San Francisco dentists have a habit of charging from two to five dollars for like operations). But one of the oddest of these out-door practitioners, is the old woman who mends stockings in the market-place. The half of a hoghead, a chair, and a few hoops bent above and covered with an old rug, with a pair of spectacles, a needle and skein of thread, constitute her cheap and simple outfit. The boys and workmen in the markets employ her to mend their stockings while they themselves pat about barefooted until they are done.

FIVE gold mines in Merionetshire, England, yielded, in 1864, 2,336 tons of quartz. This was crushed and amalgamated, and gave 2,887 ounces of gold. This is nearly one and a quarter ounces to the ton, worth over \$21 in coin.

Mechanical.

A NEW MATERIAL FOR SOLEING SHOES is said to be coming into use, of which India-rubber is the basis, but it is heavier, and has a solidity almost of iron, yet a flexibility and elasticity which renders it a most perfect substance for the purpose for which it is specially offered. It is not all of the vulcanized rubber character, though it appears at a glance to be like that material. As an article for soles it is said that it will outwear four pairs of the best English leather. The substance is not to take the place of the ordinary leather sole, but is to be applied by a peculiar cement to the boot or shoe, to which it appears to adhere perfectly. It is then pared up the edge, and the work is over. Heels are put on in the same way. The inventor says a pair of soles, worn daily, will last one year. It is patented and will soon be introduced. It is claimed that any one possessing an ordinary shoe-knife, a sand-stone to sharpen it, a box of the cement, and a few pounds of this substance, can set up a shoe shop, and the regular shoe trade can make it a most profitable branch of industry.

PREVENTING IRON FROM RUSTING.—It has been already observed, as a quite remarkable fact, that the extremely thin sheets of iron which have lately been rolled in this country and England, to show how thin iron could be rolled, possess a great power of resisting oxidation. The cause of this peculiar property was not at first understood, but careful examination has recently shown that it is due to an exceedingly thin fused layer of magnetic oxide with which they are always covered; and the fact has been applied to the protection of articles of wrought-iron. The latter are imbedded in a pulverized layer of native oxide of iron—hematite, for instance—and kept at a full red heat for several hours, after which they are allowed to cool gradually. Plates treated in this way are perfectly covered with the oxide, and are well suited for ship-building. A combination of the oxides of zinc and iron, formed by the use of the oxide of zinc, also in the process, gives rise to a black coating, which is, perhaps, even more effective.

NEW NON-METALLIC RESISTING SUBSTANCE. Some curious experiments have recently been made in Genoa, with a new non-metallic substance, designed to resist the force of projectiles. In the experiments a breast-plate was formed of this new composition, which is extremely light and flexible, and entirely free from any admixture of metal, and which was placed upon a straw stuffed figure, and became a target for all who might feel desirous of testing its power of resistance. The conical bullets of a revolver, discharged at ten paces distance from the figure, glanced off the breast-plate and fell to the ground, and neither the projectiles nor the object which they had struck seemed any the worse for the operation.

Iron and copper smelters have hitherto avoided the presence both of alumina or clay and lime in their furnaces on account of its refractibility. But Mr. Freney has proved that an aluminate of lime, containing eighty of the former to twenty of the latter, or better still, ninety to ten, is more fusible than a silicate of the same earth. He also discovered that an aluminate of lime containing more base, eagerly absorbed sulphur and phosphorus, and consequently improved iron or copper made in their presence.

HOTEL TELEGRAPHS.—Some of the European hotels are utilizing the electric telegraph greatly to the convenience of their customers. In each room of the house a telegraph is arranged, with signals explained and posted up so that they may be readily understood by any guest. The names of the different articles which can be ordered by telegraph are given with the proper signal for each. When anything is wanted the customer presses a button marked "bell," and then sends the order by pressing the button under the article named on the board. In a very short time whatever may be required is brought in. The machinery attached to the telegraph is so simple that it can easily be worked by any one.

THE BESSEMER PROCESS.—We have already stated that Mr. Bessemer has an American rival in addition to his English rival, Mr. Mushet, who claims priority of date in the discovery of his process for making steel. We now perceive that a late correspondent of the *London Mining Journal* presents another name as antedating the entire trio. That writer says:

The system of forcing air through molten metal, to give it a steely texture, is not due to either Mr. Mushet or Mr. Bessemer; and the use of manganese (which is all that gives advantage in the use of spiegel-eisen) was suggested and used by Robert Heath almost before Mr. Mushet knew that the iron trade existed. But this is not the sole reason that would lead me to urge that as little as possible should be said about the rights of the several claimants; it is very currently reported, and I am not aware that Mr. Mushet has denied it, that a pecuniary consideration has been paid as a compensation to him, upon condition that he should raise no claim to the invention. When this arrangement was made no doubt was entertained on the part of Mr. Bessemer that the claims of Mr. Mushet were unfounded, but it was thought to be preferable to make a money sacrifice rather than have a really useful invention prejudiced in the eyes of the public, more especially as it was intended to form a company to develop the invention.

NEW SOURCE OF MAGNETISM.—A new and singular source of magnetic iron has been discovered. It appears that the shavings of iron and steel, and especially the long spirals produced in turning iron on the lathe, are highly magnetic, especially in case of soft iron. This magnetism is permanent, and M. Greiss, the discoverer, has observed that the south pole is always at the end which is first touched by the tool.

IRON IN MISSOURI.—The Iron Mountain is not the only large deposit of iron in Missouri. Near Staunton, there is what is known as "Iron Hill," covering a base of some two or three acres, yielding an ore worth from 60 to 75 per cent. of iron. "James' Iron Hill" is another locality of a similar character. There is a peculiarity about the "Iron Hill," which we believe does not elsewhere occur—the gulch which bounds it on one side is said to be rich in indications of copper, while the hills on the opposite side of the gulch abound in lead.

The deposits of iron ore from which England draws her chief supply of iron, are supposed to be fresh water formations, deposited at first as hydrated peroxide of iron, just as the bog ore now forming in Swedish lakes, and afterward reduced to the carbonate by the presence of decomposing organic matter.

HARDENING COPPER.—It is alleged that one Dinsman, of Upper Sandusky, Ohio, has discovered a process for hardening copper, and has secured a patent for it. A correspondent, referring to the process, says: The material is properly called silicated copper, and can be worked without friction. All necessity for oiling machinery made from it is obviated. The writer says the Cleveland, Columbus, and Cincinnati railroad is now testing the prepared metal, and in case of its success is prepared to give the inventor \$10,000 for its use on the road. There is much excitement and interest in Upper Sandusky over the subject.

THE SWIFTEST VESSEL AFLOAT.—The Mahroussa paddle-wheel steamer, just built for the Egyptian Viceroy, and now on her voyage out, is said to be, without exception, the fastest vessel afloat. At the measured mile in Stokes Bay her average speed was about twenty and a half statute miles an hour. Her cost is said to have been \$166,000.

CHLOROFORM.—It is suggested in the *London Chemist and Druggist* that chloroform is an excellent medium for the removal of stains of paint from clothes, etc. It is found that portions of dry white paint, which resisted the action of ether, benzole, and bisulphide of carbon, are at once dissolved by chloroform.

USEFUL INVENTION.—A soldier who needed it has invented a left-handed knife and fork combined, with which a person who has lost his right arm can feed himself very conveniently.

FIRE BRICK IN COLORADO.—Messrs. Bell & Co. are turning out about one thousand a day of the handsomest kind of fire-brick at their works in Golden City, Colorado. They have now orders for some 20,000 or 30,000 ahead.

Swimming.

Swimming is a most useful art, and one that is easily learned; yet there are many persons who never make the effort to learn. Hundreds of lives are lost every year which might have been saved if the unfortunate victims had only known how to swim. There are most excellent opportunities in this city to learn the art of swimming. At least two swimming schools are constantly in operation. A gentleman who has been very successful in teaching this useful art has published the following very simple method by which any father may readily teach his son; or by which any boy can learn to swim without the aid of a teacher:

1. Make the boy's desire to learn as strong as possible.
2. Get his confidence. Let him feel assured that you will not play him any tricks or allow any others to do so.
3. Stand him in the water up to his neck if possible, if not, then as deep water as you can get him into.
4. Place one hand on his chest at the centre of gravity, and the other on his back, opposite to the first.
5. Tell him to strike out and kick, supporting him at the same time properly in the water.
6. Correct steadily the motions of his arms and legs and the positions of his hands and feet, until they are exactly what they ought to be. One method of teaching him the proper motions of his legs is to place him in shallow water, so that he can rest upon his hands with his head to the shore. You can then observe and correct his kicking, and, if necessary, catch hold of his feet and guide his motions until he gets the right idea.

You can also teach him the proper motions at home by balancing him upon a bench or chair, just as the Russians are said to teach young sailors on dry land by making them climb masts and handle rigging. This is in fact an approximation to the anxious mother's idea of not allowing her boy to go into the water until he knows how to swim. It also saves valuable time in the water, for some boys soon get chilled, and one must keep a constant eye upon them.

7. Relieve the monotony of this part of your instruction by letting the boy stand while you swim around him, or letting him jump toward you from a rock into the water so that you can catch him and lift him out, or, still better, by letting him swim in any fashion he can, while you support him toward some definite object, such as a rock or a stake.

8. As soon as his motions are correct, tell him you will let go of him while you count one, but remove your hands only a short distance from him so as to be able to catch him instantly. Then count two, then three, etc., counting aloud so that he can hear you.

9. Don't attempt to go any faster than the boy wishes to go. Courage and confidence are sometimes of slow growth, and any hurrying is pretty sure to retard.

10. Never count more than you agree to, for the only result will be to frighten and discourage.

WOMEN.—Theodore Parker, in one of his sermons, uttered the following remarks touching women:

"There are three classes of women: First domestic drudges, who are wholly taken up in the material details of their housekeeping and child-keeping. Their housekeeping is a trade and no more, and after they have done that, there is no more which they can do. In New England it is a small class, getting less every year."

"Next, there are domestic dolls, wholly taken up with the vain show that delights the eye and ear. They are ornaments of the estate. Similar toys, I suppose, will be more cheaply manufactured at Paris, Nuremberg, at Frankfort-on-the-Main, and other toy shops in Europe, out of wax or papier-mache, and sold in Boston at the haberdasher's by the dozen. These ask nothing beyond the functions as dolls, and baffle all attempts to elevate womankind."

"But there are domestic women, who order a house, and are not mere drudges, adorn it and are not mere dolls, but women. Some of these—a great many of them—conjoin the useful of the drudge and the beautiful of the doll, into one womanhood, and have a great deal left besides. They are not wholly taken up with their functions of housekeeper, wife and mother."

THE LABARUM.—This was the name given to the military ensign of the later Roman Emperors. It was composed of a long pipe, made in the form of a cross, from which was suspended a bandol ornamented with gold and precious stones. Constantine placed on the summit a crown emblazoned with the monogram of Christ. The standard was usually accompanied by a guard of fifty picked men, who were believed to be invincible while in the discharge of their duty.

TREATMENT OF COPPER ORES.—The number of processes which have from time to time been brought forward for treating copper ore is, doubtless, large, but except in isolated instances they are still unused, and now that something is really required to aid the mine adventurers, so fertile a source of profit should certainly not be passed over. There is room enough for all, and, therefore, no inventor should be condemned until his processes have been fairly tested—the result will in most cases be a large profit to those who have sufficient confidence to give their support.

Nearly ten years since, amongst the many ingenious processes sought to be introduced was that of Mr. William Henderson, of Glasgow, and some valuable improvements upon it have just been patented by the same gentleman. He states that the improvements relate to means of obtaining in solution copper when it exists in the state of oxides, carbonate, arseniate, or other salt of copper, associated with large proportions of silica, or other substances insoluble in dilute acids. When the salts insoluble in water are dissolved out by muriatic acid, and the copper precipitated by iron, a solution of protochloride is obtained, which has usually been allowed to run to waste, or be decomposed by evaporation; but Mr. Henderson has found that by treating the protochloride of iron in this manner a considerable proportion is decomposed into chlorine and oxide of iron, and that the gaseous chlorine passes up through the water, and escapes from the tower uncondensed. He has also found that the perchloride of iron has a strong solvent action on the oxides, and the salts of copper insoluble in water, and that it readily dissolves copper from ores of this class depositing peroxide of iron, and that by long contact it decomposes and dissolves the red oxide and sulphurets of copper; and he now proceeds in accordance with his increased experience.

THE POISON OF THE RATTLESNAKE.—Dr. J. W. Burnett recently related before the "Boston Natural History Society" some experiments and investigations made with the rattlesnake, which will be found interesting to those inclined to pet the venomous beasts. The virulence of the poison of these animals is too well known for special description; I will only add, there is good reason for the belief that its action is the same upon all living things, vegetables as well as animals. It is even just as fatal to the snake itself as to other animals. Dr. Dearnley had a snake confined in a cage, which he irritated, and subsequently dropped some chloroform on its head, under the influence of which he extracted some poison from one of his fangs. He then took some blood from one of his own fingers, with which he mixed a minute quantity of the poison, and immediately thereafter submitted it to examination under the microscope. The corpuscles ceased to run and pile together; but remained stagnant without any special alteration of structure. The whole appearance was as though the vitality of the blood had been suddenly destroyed, exactly as in death from lightning. This agrees also with another experiment performed on a fowl, where the whole mass appeared quite liquid, and having little coagulable power. The physiological action of this poison in animals is probably of a most powerful sedative acting through the blood on the nervous centers. This is shown by the remarkable fact that its full and complete antidotes are the most active stimulants; of those alcohol, in some shape, is the first.

THE ART OF PRINTING.—D'Israeli believes, and brings up a mass of evidence to sustain him, that the art of printing was known to the Romans, but that they rejected it as unsuited to their civilization, and that the Emperors were bitterly opposed to it, as in it they recognized a powerful enemy to their tyranny. They did, however, make use of it on a small scale. The Emperor Justinian had a stamp on which were engraved or carved the letters of his name, and had made constant use of this for signing documents. Theodoric did the same. The moveable letters with which the Roman potters stamped their wares were similar to those used by the book-binders of the present day for lettering, etc. The Romans were also perfectly familiar with printing ink, and their refusal to make use of the printing press must be attributed either to the opposition of the Emperor, or the popular belief that it was not suited to such high civilization.

It costs each member of the Baptist and Methodist sect \$3 40 a year; the Presbyterian, \$6; the Congregationalists, \$10; the Catholics, \$14; the Episcopalians, \$18; the Reformed Dutch, \$22; and the Unitarians, \$23.

A MINIATURE MAGNET.—Sir Isaac Newton is said to have had a magnet set in a finger-ring, which, though weighing only three grains, could sustain 746 grains.

VANDIO ACID is worth \$150 per ounce, yet the clay bed which underlies London is estimated to contain 303,443 tons.

[From the San Francisco Mercantile Gazette and Prices Current.]

SEMI-ANNUAL MINING REVIEW.

The favorable views expressed in our last quarterly report upon the subject of mining in California, may be repeated at this time, inasmuch as the business has since in like manner continued to flourish, even undergone further improvement in some of its branches. At no time, perhaps, within the past ten or twelve years has there been a period when this pursuit has proved more generally remunerative and satisfactory than within the last six months, or when it has presented such gratifying evidences of future stability and success. The copious rains that had fallen in the earlier part of the season having been continued to a much later period than common, has had the effect not only to relieve the miner in many places from the necessity of buying water, but by affording prolonged and unwanted facilities for placer working has greatly stimulated that branch of the business, and secured to it much larger returns than had of late years been usual. The river bars and smaller gulches once the principal scene of mining labor, being now nearly worked out, active operations in this department have been transferred to the deep, buried, and basin-like flats, hill diggings and higher benches, or to the gravel and cement ranges that mark the sites of lacustrine and glacial deposits, and the site of ancient rivers, which promise to open up a system of placers far more lasting than those superficial formations which, though so easily reached, and once so prolific, are now nearly exhausted. Into this new field the business of mining, aided by capital and a long experience, is now being carried with an energy and on a scale unexampled in its earlier history. Into its service water has been pressed to a much greater extent than formerly, being brought to bear on its work through the agency of sluices, hose and other hydraulic gear, whereby its force can be made to apply with the greatest practical effect. For collecting and conducting this element to the points where required for use, reservoirs covering hundreds of acres of land, and aqueducts hundreds of miles in length, have been built, at a heavy outlay of labor and money, while tunnels, shafts and open pits without number, have been dug either for purposes of exploration or drainage, or for bringing the auriferous earth when found, to the surface. Latterly, stamping mills for crushing the indurated gravel and cement are being largely employed in this branch of mining; and scarcely a month passes but we hear of some new agent or novel contrivance being brought into use for expediting the labor or economizing the cost of separating the free gold from the worthless material in which it is embedded. Even the more common elements—the rain, frost, atmosphere and heat of the sun are availed of for this purpose, immense quantities of tailings, after being exposed for a year or two to these influences, often paying well for washing over a second or third time. The business of re-washing this refuse matter will be carried on quite actively at a number of points the present summer, owing to the unusual facilities for washing the same. The discovery and development of additional cement and gravel beds, the opening up of new basins by bed rock tunnels, the re-working of tailings and the finding of fresh diggings at various points, in some cases outside the limit of our original gold fields, indicate for this class of mining a good degree of prosperity the present year, and tend to show how very far our placers are from being worked out. If, indeed, we have more than just begun to prospect them. That these cement ranges, though less easily exploited, will eventually prove more permanent and productive than the superficial placers is the opinion of our most intelligent geologists and miners; hence we find numerous projects—some of them of a very formidable character, and backed by ample means, have lately been set on foot for the purpose of working such claims as had already been reached, or pushing the work of exploration still further into the subterranean gold fields. These cement and gravel beds, though supposed to exist in all parts of the great gold bearing belt of California, have not been much developed, except in the more northern and central portions of the tier of mining counties. As yet, the system has been found more prevalent in Sierra Nevada, Placer and Eldorado counties, where, in fact, the most extended research has been made. Though similar in their geognostic situation, the strata of gravel are thought to be the result of glacial action, and to be anterior in the period of their formation to the cement deposits, the latter being ascribed to fluvial action. These beds are reached at depths varying from 50 to 300 feet beneath the surface—are from one to ten, and in some places even twenty feet thick, their horizontal breadth varying from one hundred to two or three thousand feet, and in some cases more—the gravel generally having a greater breadth than the cement strata. In a few places this substance is so soft and easily separated that the gold can be extracted from it by the action of water. The greater portion, however, is so indurated and tenacious as to require crushing in a battery, after which it is amalgamated and otherwise treated like auriferous quartz. Much of it is found to be rich in free gold, yielding a larger percentage of metal to the ton than quartz, while it is much more easily raised and reduced. In places the gravel is found to be especially rich in gold—car load, and occasionally a single pan yielding several ounces. Taken as a whole, these gravel and cement beds have heretofore proved a profitable class of diggings, single companies cleaning up after a month's run thirty, forty, and even as high as fifty thousand dollars. The gross annual product of the Blue Grass Co.'s claim, Butte county, is \$240,000. Within the past few years several other companies in that vicinity have done nearly as well, while in other localities not a few have been worked with large profit. Of late this description of claims has greatly appreciated in value, some but partially developed and in other cases before being opened at all, selling for large sums of money. One situated near Smartsville was disposed of not long since for the sum of \$115,000, the owner retaining an unassessable one-tenth interest therein. More recently several properties of this kind, lying near North Bloomfield, Nevada county, were sold, according to report—the one for \$159,000, and the other for \$200,000. The purchasers of these grounds will at once proceed to open them in the most effectual manner. Two other companies of large means have been organized within the past few weeks to carry on very extensive operations at another point on the same land, which has recently been traced to a much greater extent than it was formerly supposed to exist. While from some portions of this cement and gravel the gold, as before stated, can be extracted by means of water alone, the greater and often the richer portion requiring the action of the stamps to set the metal free; and although a good many mills designed for crushing and working it have already been put up, their number is likely to be greatly multiplied hereafter.

In all parts of the gold regions of California alluvial flats of greater or less extent are met with—the supposed site of former valleys or lakes, now filled with surface washings and alluvial drift, but into which great quantities of gold had been carried and there deposited prior to their being so filled up. Many of these are crater-shaped; being surrounded with a rocky rim that precludes natural draining to any great depth, and which, before they can be worked to any advan-

lage, require the construction of bed-rock tunnels through which the water and tailings can be run off. These tunnels are often works of great magnitude, being many thousand feet long, costing immense sums of money, and requiring several years for their completion. But notwithstanding their cost, these enterprises generally prove lucrative, and so successful have they been of late, that those underway will be everywhere pushed ahead with energy, while many new ones will be undertaken the present season.

Owing to the generous supplies of water, this year has been propitious to hydraulic mining, which has accordingly in many localities been prolonged beyond the usual period, and everywhere attended with a good degree of success. The diggings into which this process is introduced with best effect are generally deep—sometimes a hundred feet or more and hence are apt to last for a long time. The mass of the dirt washed by this method is not expected to be rich, this deficiency being compensated for by the cheapness and dispatch with which immense amounts of it can be disposed of, thereby rendering it one of the most certain and remunerative branches of mining where good facilities exist for carrying it on. In its prosecution water is substituted for manual labor—a single hose pipe being made to do the work of many men, and rendering profitable the washing of vast bodies of earth that would otherwise be valueless. In the use of gunpowder, employed to shatter and loosen the earth—several hundred kegs being often used at a charge—is found another efficient ally and labor-saving agent in this class of mining. Latterly, also, steam has been brought into requisition, in a few cases, for raising water for hydraulic washing where it could not otherwise be obtained. Preparations for river-bed mining are being made at a number of points the present season. The mode of procedure here is to dam the stream, and diverting it into a flume, lay bare its bed which is then worked by means of sluices; or at least such portions of it as may be found to pay. These operations have heretofore so often proved failures that they have come to be left mostly to be carried on by the Chinese, who are content to work for smaller wages, or perhaps take greater chances than the whites.

The fresh placers lately brought to light, though not extensive have, in some instances, proven of importance. The portions of them found outside the main gold-producing belt of the State, are mostly situated in the Coast Range of mountains, or between that range and the sea—some of them being immediately on the beach. They are shallow and probably of no great scope, but have paid a small number of hands fair wages, and with an ample supply of water would give profitable employment to many more. Measures to furnish some of them with water have already been taken, and another season it is thought they will better reward those who may seek to work them. In consequence of the late discoveries made upon the cement and gravel ranges, so immeasurably enlarging the probable area of our placer mines, as well as the various improvements made in the methods used for reaching and manipulating the auriferous earth, and in brief, by reason of the healthful condition and encouraging aspect of the business generally, this branch of mining is beginning to enjoy the confidence of all classes, being regarded by the laboring man and capitalist alike with favor. Money is being freely embarked not only in the purchase of claims—for some of which very large prices have lately been paid, but also in the erection of mills, the construction of tunnels, ditches, and other works of a permanent and productive character, arguing for this pursuit an approaching era of much prosperity.

QUARTZ MINING.

While the situation of things in the department of placer mining is thus progressive and promising, we find the quartz mining interest of the State to be in a condition still more flourishing and satisfactory—the product of bullion from this source being rapidly on the increase—while the practical difficulties that beset the business in its earlier stages are being successfully vanquished. In fact, quartz mining in California has now about passed the trying and critical stage which every great industry is apt to encounter at the outset. It has had its day of difficulty and failure, not to say of loss and disaster; results to be imputed to an utter ignorance of the business, coupled with over-sanguine expectations and, what at this day would seem an unaccountable misapprehension of the most obvious facts on the part of those charged with its conduct. The extent to which these pioneer quartz miners were misled is well exemplified by the fact that they practically adhered to the theory that these veins would pay only near the top, and that they became impoverished as descended upon; whereas subsequent experience proves the reverse to be the rule. But not only in a want of knowledge and experience, and in the troubles inherent to the business itself, were lodged the elements of defeat in the early day; the prices of labor and material were then so much higher than at present as to almost necessarily prevent the successful working of quartz on a large scale. Machinery, imported from abroad at heavy cost, was often found after it arrived at its destination in the far interior, to be so little adapted to the uses for which it had been designed as to be wholly worthless; and in this way alone serious inconvenience and loss were occasioned, there being then no foundries in the country capable of supplying the defective part. And thus this business struggled on through the period of its early infancy, for it can hardly yet be said to have reached an adolescent stage, however it may have succeeded in forcing a recognition as a legitimate pursuit upon the best classes of business men by placing itself in the front rank of the leading industries of the world. Any one desirous of engaging in quartz mining, has now the same means for calculating results as when embarking in the most ordinary kinds of business; since it can scarcely be said to be attended with greater uncertainty or risk than merchandising, manufacturing, or even stock-raising, fruit growing and farming. The cost of erecting and outfitting a quartz mill can be computed beforehand with as much precision as the cost of a woolen factory, a tannery, or a foundry; nor is there a much greater margin required in estimating the expense of opening and working a mine than in running one of these establishments. Even the average yield of a ledge can generally be arrived at with sufficient closeness for all practical purposes after it has been opened to a point that enables the expert to judge of its peculiar features and the predominating character of the ores. From whatever point of view then we may choose to look at it quartz mining and mining seems a business, when properly conducted, as likely to prove remunerative and safe as any other open to human enterprise; an opinion that even a casual glance at the operations now going on in different parts of California will abundantly substantiate. If, in further consideration of this subject, we divide the State into three parts, consisting of a Northern, a Middle, and a Southern District, we shall be better able to understand what is being done in these several sections and how they compare with each other.

QUARTZ MINING IN THE SOUTHERN COUNTIES.

Beginning at Clear Creek, the most southerly point in the State at which the business is at present carried on, we find here a great number of ledges, many of them narrow, varying in width from one to six feet, but so far as opened give evidence of decided richness. This district, though not

settled above two years, contains a population of several thousand; has ten or twelve quartz mills now running, with a number more, some of them of large capacity, in course of erection. The number of ledges already located in that section of country exceeds 500, though but a very small proportion of these have been at all developed. Some of the quartz is extremely rich—the aggregate yield under the stamps approximating \$40 to the ton. As a general thing it is easily raised and reduced, the veins being soft and the rock little mixed with the baser metals. The facilities for working both the mines and ores are good, wood and water being in fair supply in the vicinity. This district is situated on the western declivity of the Sierra Nevada, or rather in the foot-hills of these mountains and not far from their southern extremity, where they form a junction with the Coast Range. It is in the new county of Kern, formerly a portion of Tulare, and is distant from San Francisco, by the most frequented route, 350 miles in a southeast direction. Most of the freight, however, sent to this section goes by way of Los Angeles; the cost through from San Francisco being at the rate of \$30 per ton. A great deal of money has already been invested in the mines at Clear Creek, and heavy sales continue to be made—many of them to capitalists of this city, several of whom have from the first been largely interested there. Surrounding this district are a number of others, some of them believed to contain numerous valuable ledges, a few of which have been sufficiently tested to settle that point in their favor. Near White Creek, and also at various points along Kern River—streams to the north of Clear Creek—there are a number of small quartz mills and quite a good many arastras, mostly driven by water, all of which have for several years past been doing a thrifty business, running on rock obtained from the rich but narrow quartz veins that abound in the neighborhood. At all these points new mills, generally of greater capacity than the old ones, are being put up this summer, and the prospect is that they will all make money for their owners. Coming still further north, through the counties of Tulare, Fresno and Mariposa, we find comparatively little being done at the present time in this province of mining, though the latter county at least is known to contain many valuable veins of auriferous quartz, and a few parties working on a limited scale are said to be doing moderately well, the Merced river being the locality of these more successful and active operations. The large and expensive mills erected several years since upon the Fremont estate in this county, are now standing idle, having, after many fruitless attempts made to keep them running, been obliged to finally succumb to the combined effects of divided counsels, wasteful expenditure and general bad management. A portion of the mines upon this estate are, however, thought to be good, and capable, if well directed, of profitably employing all the mills belonging to this property. Throughout the counties of Tuolumne, Calaveras, Amador, and Eldorado, constituting the MIDDLE OR CENTRAL DISTRICT OF THE STATE,

A marked degree of activity in this branch of mining is observable; the energy displayed in opening the old and prospecting for new claims being greater than ever before. The numerous and extensive mills throughout this region are nearly all running, and generally with diminished expenses and increased earnings. The number of these structures going up this season is also large, those already built being inadequate to the work of crushing the rapidly accumulating ores. Capital is going quite freely into this section, many heavy purchases of mining properties having been made within the last quarter, and a variety of enterprises involving the expenditure of large sums have meanwhile been set on foot. It is a feature of many of the ledges in this district that they carry much free gold, found in nuggets or bestowed in pockets of frequent occurrence along the course of the vein. Still the quartz here is not supposed to pay as evenly or to give as high an average yield as elsewhere in the State. The district, however, from its proximity to the great centers of mining supply, has the advantage of cheap freight, being at the same time well furnished with wood, water and the other staples essential to economy in the exploration of metallic veins and the treatment of their ores. To even enumerate all the mines of ascertained value, or make the briefest mention of the many improvements completed or going forward within the limits of these several counties, would call for more space than we have to spare. Suffice to say that many of these mines after having for years been successfully worked with arastras are now yielding more largely than ever under the potent agency of the steam engine, and that these improvements are fully equal to any found elsewhere in the State. Among the more productive and profitable mines in this quarter, the Soudby, near Sonora, and the Hayward, in Amador county, take precedence—the net earnings of the latter being from \$30,000 to \$40,000 per month. Its entire yield since 1853, when it was first opened, has been nearly \$7,000,000, and although now being worked at a point 1,300 feet beneath the surface it falls to convince signs of impoverishment or exhaustion.

THE NORTHERN DISTRICT.

comprising Placer, Yuba, Nevada, Sierra, Butte, and Plumas counties, covers what may be justly considered the balance of the quartz mining region of California, as well as the site of the earliest and most extensive operations yet undertaken in the prosecution of this business. While each of these counties contains a large number of mills and a multitude of ledges, many of them highly prolific and thoroughly developed, Nevada, considered in this connection, has from the first entitled herself to the distinction of being called the "Empire" County of the State. Here we find not only the most thoroughly explored, steady paying, and largely productive claims in the State, but at the same time the best examples of general success any where to be found in this department of mining. But as Nevada in the business of quartz mining may justly be regarded as outranking every other county in the State. So may

THE DISTRICT OF GRASS VALLEY.

be accounted the most important locality in Nevada County, since it will produce from this source the present year a sum exceeding \$5,000,000, and will before the season closes contain within its limits about thirty well appointed and in every respect first-class quartz mills, carrying in the aggregate over 300 stamps, and having a capacity for reducing nearly double that number of tons of quartz daily. The magnitude of this interest as displayed at this point will be made the more manifest if we examine, however briefly, the operations of a few of the leading companies at that place, selecting such as may fairly be considered representative mines.

ALLISON RANCH MINE.

The yield of this mine for the half year under notice has been \$40,000 per month—a total of \$240,000, more than half of which may be set down as clear profit. This was extracted from some 2,300 tons of ore, the average yield being \$104 per ton. This vein is now being worked at the depth of five hundred feet, at which point it is three feet wide, and exhibits a compact and well concentrated body of ore, not only of high grade. This company runs a 12 stamp mill, capable of crushing only about 125 tons per week.

THE NORTH STAR.

universally conceded to be a mine of extraordinary merit, and undoubtedly one of the most valuable about Grass Valley, has the further advantage of having been developed in

a thoroughly scientific and substantial manner. It is opened by a main incline 665 feet long, and having a vertical depth of 250 feet. The vein, which lies quite flat, and varies in thickness from one to six feet, averaging about two and a half, has been exposed in the lowest level some 425 feet eastward from the main shaft, and 640 feet in the same direction in the next level above, securing for it a very thorough exploration. From these lower levels very little ore has been raised, and between the bottom level and the two levels above, the length and average width of the vein being carefully ascertained by actual measurement, it is thought that 10,000 tons of ore can yet be extracted, worth \$35 per ton, and in the virgin ground, which extends to the surface above these three lower levels, and varying in length from 400 to 600 feet, it is estimated that 20,000 tons may be taken, worth say \$28 per ton. In other words, with the developments now made from the bottom of the shaft to the surface, 30,000 tons of ore still remain untouched, valued at over \$900,000. The great wealth of this mine will however probably be found in sinking still deeper, inasmuch as the lode has shown a steady improvement as descended upon. For the past five years this claim seems to have been worked with reference to the future, rather than for consideration of immediate benefit. Although dividends have been declared at irregular intervals since 1852, the real prosperity of the mine dates from 1861, and during the past four years a net profit of \$500,000 has been realized, of which sum fully \$125,000 was expended in various improvements, such as the construction of a drain tunnel half a mile in length, new hoisting and pumping apparatus, and in the erection of a new and very substantial mill, capable of crushing at least 35 tons of ore per day, leaving \$375,000 for actual dividends. All this was accomplished with a 6-stamp mill, running in 1862 and 1863, and since then by one of 9 stamps. The returns for the first five months of the present year reached nearly \$90,000, extracted from some 2,500 tons of ore. The average yield of the rock has been about \$35 per ton for several years past, that more recently crushed running up to nearly \$40. This valuable property, including the new 16-stamp mill, was not long since purchased by several capitalists of this city, for \$450,000, but it probably could now be resold for a much larger sum. The working management will remain in former hands, the whole being in charge of Mr. Wm. H. Rodda, for a long time general superintendent.

EUREKA MINE.

The gross earnings of this mine for the eight months ending May 31st, were \$284,000, their expenses having meantime been \$102,000, leaving a balance in their favor of \$182,000. During the month of June last the product of this mine was \$71,000, besides sulphurets valued at \$2,000, estimated expenses being meantime \$13,000. The average yield of the ore during that month was at the rate of \$65 per ton. The yield during the last three months of 1865, was at the rate of \$33 87 per ton, while the lot crushed during the first five months of the present year gave an average of \$42 67 per ton, showing how uniformly but very materially the ore increased in value as the mine was developed downward. The present lowest level in this mine is 300 feet beneath the surface. The cost of mining and milling this ore was about \$13 per ton, this being about the average cost at Grass Valley.

THE OREIN.

Another of the rich and promising mines of Grass Valley, though for a time under a cloud, is now enriching its owners. The claim is well opened, and the company have just finished one of the most superb mills ever erected in the State, built at a cost of \$125,000. It runs 30 stamps and has a capacity to reduce over 60 tons of rock daily. The Ione Company possess a ledge of good size and unquestionable richness, which they have lately been subjecting to a rigid exploration. The earnings of their mine, though not yet worked to any great depth, has sufficed during the past few months to pay current expenses and defray the cost of a 10 stamp mill. The Huoston Hill Company, owning a six-inch vein have been able to divide among themselves \$3,000 per month, since January last. The Noramanga, one of the mines of the Forest Spring Company, has been doing well, and at this time is probably in a more promising condition than for several years past. The aggregate production of this claim has exceeded \$1,000,000, and it is thought that regular dividends can be made hereafter, under judicious management. Active operations continue upon Osborn Hill, New York Hill, Massachusetts Hill and Union Hill, and many other claims in this locality are increasing their net earnings. The Kate Hayes mine, purchased a few months since by parties in this city, is undergoing a vigorous development, and we are informed that recent explorations are regarded with much favor.

Grouped about the above mines are many others equally entitled to notice, and all of which we would speak of in detail if our space would allow. The main facts, however, would not differ widely from those already set forth, going to show the mineral opulence of this district, and the lucrative character of quartz mining where, the conditions being favorable, it is carried on with energy and prudence; for it must not be overlooked that the business as conducted at Grass Valley has, for the most part, been in the hands of men distinguished for these qualities. They did not, as a general thing, grow impatient for mills before they knew whether they would need them or not, nor did they abandon their claims in despair if they failed to find pay rock immediately upon the surface; on the contrary, they applied themselves diligently to labor, sticking to it with a perseverance worthy of all praise until they arrived at definite results. These pioneers also had the good sense to eschew incorporated companies, thereby retaining the control of affairs in their own hands and avoiding much useless expenditure. Another good rule was that of guarding against debt, developing the mines no faster than it could be done with their own earnings, all of which resulted in benefit to the owners, and in promoting the ultimate prosperity of the miners themselves.

SILVER MINING.

The product of the silver mines of the State of Nevada for the half year just closed exceeded \$7,000,000—being at the rate of \$14,000,000 per annum. The various claims situate on the main Comstock lode are yielding their usual complement of ore, and all the mills dependent upon them for their supplies are kept constantly running, there having been fewer of them unemployed the present summer than usual. The lower levels of these mines, some of which have reached a depth of more than seven hundred feet, are nearly all now developing larger bodies of ore than were met with at the beginning of the year, affording satisfactory evidence of continued productiveness and permanency. The expenses attending the extraction and milling of these ores, although of late much less than formerly, owing to better management, is still very considerable. Less than ten per cent. of the entire yield of bullion from the Comstock lode for the first half of this year has been divided among stockholders in the shape of dividends, and a number of assessments have been levied by certain companies. During the year 1865, with an aggregate yield of nearly \$15,000,000, the dividends disbursed to shareholders amounted to \$1,900,000, and the aggregate assessments levied exceeded \$1,550,000. From the mines located at other points in the State the yield has not been large thus far the present year, many of the mills having been idle, owing,

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, July 14th, 1866.

The receipts of Treasure from different sources, during the past half year, have been as follows through public channels:

From California, Northern Mines.....	\$12,337,734
From California, Southern Mines.....	2,263,000
From Nevada.....	2,263,000
From Coastwise Ports, Oregon, etc.....	2,079,000
Imports Foreign, British Columbia, etc.....	1,345,240
Total.....	\$23,313,745

In comparison with the year 1864, there is a falling off in the total receipts of \$1,972,014, and as against last year the decrease amounts to \$3,976,998. These figures embrace coin as well as bullion. The recorded receipts of the latter amounted during the period under review to \$21,137,733, including \$7,263,000 from the silver districts of Nevada. During the first half of last year, the receipts of bullion from Nevada exceeded \$8,600,000, showing a decline of \$1,336,782 this year. From the Southern mines the decrease amounts to \$980,248, and from the Northern mines, \$2,317,030, as compared with the first six months of 1865. There has been a steady falling off in the yield of the Southern mines for several years past. The lessened productivity of the Northern mines during January and February of this year, was owing to the interruption of both quartz and placer operations by the unusual severity of the weather. Since March last the yield of the Northern portion of this State shows an important increase over a like period last year. In arriving at the probable product of the gold mines of California and the silver mines of Nevada, it would be proper to add say 10 per cent. to the bullion receipts in this city through the express companies, for receipts in private hands. This would make an aggregate yield of \$21,298,622 for California and Nevada during the past six months. Adding say 30 per cent. to the arrivals from coastwise ports, north and south, including Oregon and British Columbia, gives the sum of \$4,056,895, making the entire product of the gold and silver mines of this coast \$25,355,517 during the first half of this year. This is probably within bounds.

There is a slight abatement in the demand for money, and rates of interest are ruling a 1 @ 1 1/4 per cent. per month on Bank, with occasional transactions at 1 1/2 per cent.

The inquiry for bullion is also less active. Gold bars may be quoted at 860 @ 870. Silver is worth about 1 per cent. premium for average bars. Receipts of treasure from the interior since the date of our estimate, amounted to \$950,000, making an aggregate of nearly \$2,000,000 for the first half of the current month.

The mining share market presents no material change. Some leading shares have been well maintained this week, while others were dealt in at a decline. Advices from Nevada have been particularly meager and devoid of interest; but so far as we can learn a number of mines are looking better than for some time past, and will probably continue to earn satisfactory dividends.

Hale & Norcross is inactive, but strongly held, and trifling sales were made at \$1260 @ \$1350, closing at \$1350, bid. The aggregate receipts of bullion for the month of June were \$104,247.33 from 2,269 1/2 tons of ore—an average of \$45.92 per ton. Different portions of the mine present a flattering appearance, particularly so in the south drift from the 535-foot level, and in the 12th floor of the 700-foot level. A dividend of \$75 per foot is payable this day.

San Francisco Stock and Exchange Board.

	Bid.	Asked.
United States 7 1/2 10ths.....	\$ 74	\$ 75
Gov. Legal Tender Notes.....	70 1/2	71
State Bonds, 7 per cent.....	85	87
San Francisco 10 per cent.....	110	112
San Francisco Bonds, 1855, 8 per cent.....	110	112
San Francisco Gas.....	120	122
San Francisco Bonds, 1855, 8 per cent.....	69	70
Sacramento City Bonds, 6 per cent.....	18	20
Sacramento County Bonds, 6 per cent.....	58	60
Marquette Bonds, 10 per cent.....	75	82
Stockton Bonds, 10 per cent.....	80	85
Yuba County Bonds, 10 per cent.....	80	85
Butte County Bonds, 10 per cent.....	70	80
California Navigation Co.....	54	55
State Telegraph Stock.....	33	35
San Francisco Gas Co.....	75	80
Sacramento Gas Co.....	75	80
Spring Valley Water Co.....	64	65

RAILROADS.

Sacramento Valley Railroad.....	50
Omnibus Railroad.....	50
Central Railroad Co.....	50
North Beach and Mission.....	50

MINING STOCKS.

Alpha.....	\$210
Baltimore American.....	1
Bullion, G. H.....	52
Becher.....	160
Confidence.....	61
Ophir.....	215
Gould & Curry.....	690
Empire M. & M. Co.....	125
Savage.....	890
Chollar-Potosi.....	187
Hale & Norcross.....	1350
White & Murphy.....	2
Sierra Nevada.....	2
Yellow Jacket.....	620
Overman.....	43
Crown Point.....	690
Antelope.....	400
Emeryville.....	400
Real del Monte.....	150
Eureka.....	150
Dick Siles.....	107
Imperial.....	107

Prof. W. Byrd Powell, who died in Covington, Kentucky, bequeathed his head to Mrs. T. H. Kinsey, to be used for scientific purposes. In accordance with this a surgeon cut off the Professor's head, and it is now in the possession of the lady.—*Alta*, July 2.

San Francisco Market Rates.

WHOLESALE PRICES.	
	FRIDAY, July 13, 1866.

Flour, extra, per bbl.....	5 00 @ 5 75
Do Superfine.....	4 75 @ 5 00
Corn Meal, per 100 lb.....	4 30 @ 4 50
Wheat, per 100 lb.....	1 50 @ 1 65
Oats, choice, per 100 lb.....	1 50 @ 1 60
Barley, per 100 lb.....	75 @ 80
Beans, per 100 lb.....	3 50 @ 5 50
Potatoes, per 100 lb.....	60 @ 85
Hay, per ton.....	8 00 @ 14 00
Live Oak Wood, per cord.....	8 00 @ 10 00
Beef, on foot, per lb.....	12 1/2 @ 15
Beef, extra, dressed, per lb.....	12 1/2 @ 15
Sheep, on foot, per lb.....	1 00 @ 2 00
Hogs, on foot, per lb.....	8 @ 10
Hogs, dressed, per lb.....	10 1/2 @ 11

GROCERIES, ETC.

Sugar, crushed, per lb.....	14 @ 15
Do China.....	10 @ 11
Coffee, Costa Rica, per lb.....	21 1/2 @ 22
Do Rio.....	21 @ 22
Tea, Japan, per lb.....	90 @ 1 00
Do Green.....	90 @ 1 00
Hawaiian Rice, per lb.....	9 @ 10
China do.....	62 @ 75
Coal Oil, per gal.....	70 @ 72
Candle, per lb.....	18 @ 22
Ranch Butter, per lb.....	25 @ 35
Isthmus do.....	21 @ 30
Cheese, California, per lb.....	10 @ 14
Eggs, per doz.....	40 @ 42
Lard, per lb.....	16 @ 18
Ham and Bacon, per lb.....	18 @ 20
Shoulders.....	12 1/2 @ 15

Retail Prices.

Butter, California fresh per lb.....	45 @ 50
do pickled per lb.....	38 @ 40
do Oregon.....	35 @ 40
do New York, per lb.....	40 @ 45
Cheese, per lb.....	15 @ 25
Honey, per lb.....	30 @ 40
Eggs, per doz.....	40 @ 50
Lard, per lb.....	22 1/2 @ 25
Ham and Bacon, per lb.....	22 1/2 @ 25
Crabapples, per gal.....	1 00 @ 1 10
Potatoes, old, per lb.....	1 1/2 @ 1 1/2
do New, per lb.....	1 1/2 @ 1 1/2
Tomatoes, per lb.....	6 @ 10
Onions, per lb.....	6 @ 8
Apples, No. 1, per lb.....	3 @ 8
Pears, table, per lb.....	8 @ 25
Plums, dried, per lb.....	20 @ 22

BEAUTIFUL EVENING.—Telegraphing Extraordinary.—Tuesday evening last, though moonless, was a most beautiful evening; the air was unusually clear, and the stars never shone brighter. It appeared by the telegraphic dispatches of the next morning that a similar atmospheric condition must have rested over pretty much the entire continent. At midnight the telegraphic wires of this city were in immediate connection with New York city, and worked without any difficulty through the whole circuit. The wires were also worked with extraordinary facility during the entire day. As an instance, we may note the fact that a firm in this city had occasion about noon to send a dispatch to their New York correspondents. They were not a little surprised to receive an answer in twenty minutes from the time the dispatch left this city! Twenty minutes from San Francisco to New York, and back, will do pretty well even for this fast age and people.

NEWS FROM THE NORTH.—The *British Colonist* and *Daily Chronicle*, the last of four daily papers once published in Victoria, have amalgamated their establishments. The mines at Cariboo are turning out an average amount of gold—the Aurora and Nigger claims each yielding about 100 ounces a day. The accoutre from Big Bear are very contradictory. Some miners are doing well, others returning in disgust.

as is said, in some cases to an insufficient supply, and in others to the difficulty encountered in treating the ores. Many of the lodes in these outside localities, though apparently rich, have only in a few instances been thoroughly opened—scarcely in any sufficiency to reach permanent bodies of ore; and hence the inadequate supply—many large mills having meantime been erected. With a systematic and thorough development of the mines, of which there are great numbers in these outside districts, there can be little doubt but that the mills now built, and perhaps many more, would be able to find constant and profitable employment.

COAL.

The present very considerable and the immense prospective demand for fuel in California, imparts to the question of its cheap supply, a peculiar interest, both as a matter of public and domestic economy. To us nothing is more vitally important, since in its solution are involved so many considerations bearing upon our material prosperity. Upon this we shall be mainly dependent for the generation of that motive power which is hereafter to carry on our mining and manufacturing industries, sustain our commerce, and even, to a great extent, our mechanical and agricultural pursuits, and, in short, all the great arts and interests of both war and peace. Being of such practical importance, it is not strange that this question of fuel supply should have attracted the attention of our capitalists and business men, a number of whom have lately become largely interested, as we understand, in the partially developed coal mines of Mount Diablo, and elsewhere upon this coast, with a view to pushing them, by a liberal application of capital, to such a point of productiveness as will meet and satisfactorily answer the entire home demand for coal. Should this project be carried out it would no doubt result in advantage to the consumer and in pecuniary profit to the parties concerned. In the meantime, the coal mines, both in this State and in Washington Territory, are turning out their ordinary supplies of a steadily improving quality of fuel which, recommended both by its excellence and cheapness, is growing in favor with all classes of consumers.

COFFEE.

Throughout all parts of the mineral bearing belt of this State discoveries of copper lodes are reported, some of which would appear to be of much prospective value. The Union and Koystone have, during the past six months, yielded as well as at any previous period, the former turning out at the rate of about 2,000 tons per month, and the latter considerable quantities of medium grade ores. Much work of a preparatory kind has been done in these claims of late, fitting them for more extensive operations hereafter; and as they exhibit large bodies of good ore in all their shafts and lower levels, it is expected that henceforth the quantities raised will be considerably increased. Many other lodes in the vicinity of Copperopolis are now beginning to yield, and in the course of the next half year will largely augment the shipments of ore from that vicinity.

QUICKSILVER.

In the New Almaden mine, whence 90 per cent. of all the metal produced in this State is extracted, operations are being carried on with the energy and good results that have characterized the present management. The working force employed at present is large, being not less than 1,300 men in the various departments. The company have recently much enlarged their reduction works, and it is understood have also introduced some valuable improvements in their mode of treating the ores. Active operations, after having been suspended for a number of years, have been resumed at the New Idria mine, and it is reported with encouraging prospects of future success. About 100 men are now employed in the Redington Quicksilver mine, near Clear Lake, upon which extensive furnaces have lately been erected and other improvements made—insuring for the current year, as is believed, a large product of metal. At various other points in the State deposits of cinnabar have been found, some of them of presumed value.

The following are our exports of Quicksilver for the first six months of this year, as compared with the same period of 1865.

To	1865.	1866.
New York.....	3,020	3,040
Great Britain.....	4,200	3,000
China.....	7,000	6,752
Mexico.....	1,430	4,007
South America.....	5,500	1,000
Australia.....	200	575
British Columbia.....	17	2
Other Countries.....	41	41
Totals.....	21,363	17,427

PETROLEUM.

The production of California Petroleum is steadily increasing, and is evidently destined to become a great source of wealth to the State. The adoption of new methods of opening the claims, by tunnels rather than by boring wells, has in most cases given satisfactory results, and a steady supply of good thin oil, like that from Pennsylvania, has been obtained in several places. Regular shipments are now made from San Buenaventura to San Francisco, and one claim has furnished over 1,000 bbls, which is not one-fourth probably of what might have been saved. Preparations are making for a more active development by tunnels, which it is now believed are much more likely to cut the springs of oil than vertical borings. The localities of thin green oil resembling that of Venango County, Pa., are numerous in the Santa Anna and the Azufre mountain ranges, and several are being developed by San Francisco capitalists, with every prospect of success. Two or more refineries are now in operation in this city, producing a superior quality of illuminating and of lubricating oil from the native Petroleum. A large refinery is being erected at the Buena Vista claim, in the Tulare Valley, where there is an extensive region, giving promise of an abundant supply of oil.

BORAX.

The source of supply of this mineral is a large and shallow basin called "Borax Lake," near Clear Lake, in this State. Hitherto the company who own this property have been engaged in extracting the natural crystals of borax which are embedded in the mud of the lake, by means of small iron coffer dams. By this means, working in a very small way, they raise about 3,000 pounds of crystals per day. But they are now preparing to extract borax from the mud of the lake by lixiviation, having ascertained by experiments on a large scale, that the mud for a depth of about eight feet, after all the crystals of an appreciable size have been removed, when dried at a temperature of 150° F., contains 14 per cent. of borax and 28 per cent. carbonate of soda. This rich mud, covering an area of about two hundred acres, will afford many thousand tons of borax per annum, for a period practically unlimited; and there is every reason to suppose that the boracic acid springs at the lake will perpetually renew the supply. The company expect in the course of a few weeks to turn out between five and ten tons per day. Borax Lake is a shallow pond, which in the month of September is nearly or quite dry; and covered with an incrustation of borax, soda, and common salt, giving it the appearance of a field of snow.

SULPHUR.

On the land belonging to the Borax Company, consisting of about three thousand acres, held under a patent from the United States, there is also a very large deposit of sulphur, estimated to contain many thousand tons. The company are now producing about ten tons sulphur per diem, of quality known as brimstone.

Mining Summary.

CALIFORNIA.

Alpine County—

The *Miner* of July 7th, has these items: The American company are now pushing their drift, working six men and making twenty-six hours each day. The rock is hard quartz, sometimes requiring twenty-five drills to put down a 15-inch hole, but it looks well. Some very rich ore has been recently found, and when the furnace trial, soon expected to take place, shall prove which is the best method of working this ore, something definite will be done with it. A shaft has been sunk to the depth of fifty feet on the Poe ledge, and a cut or drift of twenty feet run, developing a vein of ore three and one-half feet in width. Dr. R. B. Ellis, of Carson City, is now building a smelting furnace, to be completed in two or three weeks. We have seen samples of this ore which assayed over \$700 per ton. The George Washington mine, which has been kept under lock and key for a few months back, is now attracting considerable attention. Mr. W. D. Root, the Secretary, has been authorized by the company to proceed to the mine and make all necessary arrangements for erecting furnaces, building mills, or otherwise placing things in working shape.

Amador County—

The *Ledger* of 7th inst., says: The Oneida mill, with its forty stamps, is now running night and day, and yielding handsomely. Many valuable improvements have been made in the machinery used for crushing and saving the gold, as well as in the mode of working the mine; and at this date everything is working well. The Kennedy mine cleaned up on Monday last, a run of one hundred and sixty tons of rock, which yielded five hundred and eleven ounces of pure gold, with a little over one thousand dollars worth of sulphurets. This rock was taken promiscuously from the mine, no attempt at selecting having been made. The rock was worked in the Coney & Bigelow mill, of this place.

The *Dispatch* of same date, says: In the vicinity of Enterprise, Aden & Co. have a shaft eight feet by six in size and eighty feet deep. The Grayhound claim has a shaft the size of the above, forty feet in depth, favorably located for working, and is yielding rock that prospects from ten to fifteen dollars per ton. We saw a nugget weighing six ounces, taken from the Jefferson, which, it is estimated, contained three ounces of pure gold. The Enterprise changed hands last week. The purchasers express the determination to erect a mill, and prosecute the work of developing the mine with vigor. The Richmond mill and mine were sold last week, we learn, and operations will soon be resumed upon the works. At Fiddletown, some very rich placer diggings have been discovered in the ranges of hills on either side of town. The Kinsmill claim, at the depth of one hundred and three feet, has four feet of cement gravel above the ledge, and prospects one dollar to the pan. The company is now engaged in erecting a whim and arastra. Mr. Peck has struck good pay gravel in the hill on the north side of the town.

Volcano correspondent of same says: The placer mines are paying well. Philbrook & Co. cleaned up \$3,000 after a run of three weeks in pay dirt. Young & Co., on the lead of Jackass, are doing equally well; also Frederick & Co. On the different flats around Volcano there are about thirty dericks working every day, hoisting pay dirt that yields a very handsome dividend.

Butte County—

The *Record*, June 30th, has these items: Work on the Silver Ledge at Cherokee is still progressing. Mr. Davis has tunneled in some sixty feet, striking the ledge at a depth of about thirty feet. Rock from this ledge has been tested both in San Francisco and in the mills at Humboldt. Both trials yielded about sixty dollars per ton.

Calaveras County—

The *Courier* of July 7th has these items: Eighty tons of quartz from the claim of Goulson & Co., near West Point, in this county, recently crushed at Smith's mill, yielded one hundred and fifty dollars to the ton. The expense of extracting, hauling and crushing the above amount of rock was only eight hundred dollars, leaving a profit of \$1,200. Five tons of unassorted rock from the Two Dollar Gulch lead, at Railroad Flat, yielded forty-five dollars to the ton. The lead is three feet wide. The Fair Play, at Downing Camp, is said to be yielding rich rock.

Correspondent of Amador *Ledger*, at Mokelumne Hill, says: New placer diggings have been discovered in some gulches and flats about twelve miles easterly from West Point, which has caused quite a rush of the mining population from this vicinity. The diggings are said to be of great richness, but their full extent has not been satisfactorily ascertained. I understand, also, that very rich quartz mines have been struck at Railroad and Skull flats, a few miles from West Point.

Nevada County—

The *Gazette* has these items: The Sherlock ledge has been stripped for a distance of about twenty feet, and found to be from one to three feet thick. Two hundred pounds of the rock yielded, by working process, two dollars and sixty cents. The hoisting works of the Curtis mine, near Grass Valley, were destroyed by fire on Saturday night. The Comanche ledge has been stripped on the surface for a distance of seventy-five feet or more, and an incline sunk about fifty feet in depth. The ledge is of good size, well defined, and the rock rich. We learn that Phelps & Adair, who have been engaged for some years in running a tunnel for their gravel claim at Phelps Hill, got through the rim rock last Saturday, and struck the richest kind of gravel. They have picked up on the bed-rock, which is the channel of an ancient stream, quite a number of forty and fifty dollar nuggets, and many smaller ones.

The Grass Valley *National* says: In the Essex ledge, an incline double shaft, six by four feet, has been driven down to a depth of 106 feet, from which a drift sixty feet in length has been run in a due westerly course. It is expected that the ledge will be obtained in a week or ten days at the most. Some very rich rock has been taken from the ledge, when it was first discovered in Wolf Creek, about a hundred feet from where the shaft is sunk. Messrs. Joseph Woodworth and Vokes have now one of the best mines in Grass Valley. We mean the old Osborn Hill. Quartz from this mine pays \$150 to the ton.

Some very rich specimens were recently taken from the Inkerman. One piece of rock, weighing perhaps twenty pounds, shows large seams of handsome gold running clear through it. The sulphurets are very rich.

The *Transcript* gives these items: A new mining district has just been discovered in this county, which bids fair to rival the famous Excelsior district in richness, if not in extent. Some eight or ten ledges, resembling very much the ledges of Excelsior, and prospecting equally well, have already been located. The district is near the Culbertson grade, and about two miles north of the Yuba river. The ledges are large and well defined. They run north and south, and may be easily traced by the croppings. A working assay has been made, and the rock yielded \$235.50 to the ton. The lead discovered in the middle of the city a few days ago will pay at least five hundred dollars to the ton. Much of the rock contains any amount of splendid looking sulphurets. We have before us now a piece of rock from the ledge, which sparkles with free gold. A few days since a rich lead was struck on the Colfax road, about two and a half miles below Grass Valley. The ledge is two feet thick upon the surface and is well defined. A piece of rock weighing two or three pounds, taken from the croppings and crushed in a mortar, showed thirty or forty colors. The rock, a short distance from the surface, contains a large quantity of rich sulphurets. The cement mills on the claims of Knowlton & Co., at Brandy Flat, near Washington, were started about ten days ago. They are getting out excellent cement, and from a partial clean-up, made on the 2d instant, they got a very fair return. The Eureka shaft is down 320 feet. The lead is seven feet wide at that depth. Fifty men are worked on a shift day and night. The sulphurets are worth \$400 per ton, and are shipped to Swansea to be worked. The result of the last run of twelve days was \$31,500.

Excelsior.—From the *Gazette*, we clip the following items: The mill of the California company, at Meadow Lake, recently made a run of twelve days, and cleaned up at the rate of fifty dollars a ton. The rock, we believe, was from the Knickerbocker ledge. On the Old Man Mountain, the two main ledges, the Mammoth and Little York, can be seen cropping out boldly for miles. This season at Meadow Lake is likely to be devoted mostly to speculation. Money will be made there by individuals, not out of the mines, but in buying and selling "feet," town lots, etc. Not until the speculative period is passed will the people go to work in earnest to develop their quartz mines.

A correspondent of the Grass Valley *National*, writing from Meadow Lake, says: The weather is now beautiful, and the warm sunny days of the past week have carried off what remained of the snow. Prospecting goes on. There is plenty of work for carpenters at six dollars per day, but work in the mines is not so plenty and other kinds of work equally hard to get. Meadow Lake is the place, although there are within a radius of five miles the towns of Mendoza, Paris, Rockland, Baltimore, Ossaville, Carlisle and Enterprise City. In the town of Pais, it is said, lots have been sold to the amount of \$8,000. The ledges in this district are invariably enased in solid rock, and require blasting from the top down, prices of contract running from fifteen to forty dollars per foot for sinking a shaft of four feet by eight.

The Meadow Lake *Sun* says: We were shown yesterday, some very rich rock taken from the Primrose claim, on the Old Woman Mountain. Some rock from the top of the Primrose ledge was worked last winter at Gold Hill which yielded \$33 to the ton. The ledge is about ten feet in width, and remarkably well defined.

Plumas County—

The Quincy *Union* of June 30th, says: Since the discovery of the rich quartz lode in French Ravine, East Branch, some of the old owners or locators are looking out for their interests. The indications are that there will be a law suit or two in regard to it. The company at work upon it are taking out very rich rock. Peel & Co.'s claims, on Grizzly Creek, have been paying well during the season. They intend putting up 2,000 feet of iron hose during the summer. A correspondent at Marion Flat, writes us that the miners in this vicinity are making active preparations for a summer's work, putting in windmills, etc., with every prospect of success. At Dutch Hill most of the claims are paying well. Zeasing & Co. are making from twelve to fifteen dollars per day to the hand. The Metropolis, on Grizzly Creek, is a copper ledge, 20 feet in width, which promises to be one of the best in the State. The ore is of that specie known as the Peacock ore. An assay made by Mr. J. Chapman, shows a yield of thirty-three per cent. of pure copper. Samuel Grass is the discoverer.

Sacramento County—

The Folsom *Telegraph* of July 7th, says: Mining in this section of the State, is decidedly looking up. Men with capital, and men without it, are prospecting, opening, and developing quartz, cement, and bank claims. Rich quartz and cement prospects are the order of the day, and numerous sales and transfers of interests are being daily made in and about the borders of Sacramento, Placer, and El Dorado counties. It is confidently believed that the celebrated "blue leads," so rich and extensive in the upper part of Nevada and Placer counties, have been struck in El Dorado county, near Placerville. We saw an assay, made by Palmer & Day, assayers in this place, from two hundred and fifty pounds of average cement, from the claims of the Western Tunnel Company, whose claim is about two miles from Placerville, from which seventeen dollars in gold was realized. The pumps connected with the Golden Rule quartz claim, situated near Horse Shoe bar, Placer county, were put in operation on yesterday. The hoisting works are on the Bonney plan, used at the Savage claim, at Virginia City. The average pay rock assays \$60 per ton in gold.

Shasta County—

The *Courier* of July 7th, says: Work in the Potosi has commenced again under the supervision of a practical mill man from Grass Valley. A run of twelve tons of rock gave \$100 per ton.

Mr. Southern showed us four "chispas," from Dog Creek, the other day, which were worth a little over \$380. Another weighed four pounds and a quarter.

Sierra County—

The Downieville *Messenger* of 5th inst., has these items: Some new and very rich gold bearing quartz ledges have been discovered between Sierra Valley and Sardine Valley. Specimens of rock show free gold in abundance. Sixty-five claims have already been located and recorded. We have been shown by C. W. Gilbert, Esq., a nice prospect taken from half a pound of rock from the Sailor claim, in which no gold was visible before crushing. Excellent rock has been discovered in Mohawk Valley, an assay of which gives \$300 to the ton. Fred. King is putting up a mill about two miles from Sulphur Spring Ranch for the purpose of working the rock. The sheds of the Bell Tunnel mining company at Greenwood, have been destroyed by fire, with their contents. Loss \$1,200.

"Gold Lake" seems after all to be a reality. A communication to the *Messenger*, in regard to Gold Lake Valley, just north of the Downieville Buttes, says: "Recent discoveries by Mr. Phil. Havens, has demonstrated that the placer fields of the valley are not only extensive, but unusually rich in auriferous deposits as well as gold bearing quartz veins. The latter have undoubtedly been the source of the placer gold found in the workings, the gold being of a light and porous character with points and surfaces not rounded by abrasion or water worn. This valley is situated in the same mineral belt as Summit City or Meadow Lake, which is now attracting so much attention. The tide of capital and emigration being on the direct road, is sure soon to flow this way. Heretofore its apparent inaccessibility (more apparent than real) has deterred the prospector and capitalist.

Tulare County—

The *Times* of June 29th, says: From our office window we have observed for the past week, an unusually number of large ox-teams pass en route for Clear Creek, Owen's River and Kelso Canon, loaded with all kinds of machinery. From the number of boilers, engines, quartz crushers, etc., we are of the

opinion that our mining neighbors have big fortunes in view.

Letter from Keyesville to the Mariposa *Free Press*, June 25th, says: The Mammoth lead, just above Keyesville, has been purchased by Messrs. Baldwin, Sanborn and Roberts, who are erecting a good substantial water power mill of twenty stamps, near the site of the old mill below the bridge on Kern river. It will be completed in about two months. At Kernville the Big Blue mill is in operation, crushing quartz from the Sherman vein. It is said to be paying well. They employ about twenty-five men. On the Greenhorn Mountain, the mill formerly owned by Marsh & Kennedy has been purchased by Messrs. Eldridge & White, together with several veins in the neighborhood. They are pushing along their work rapidly.

Yuba County—

The Brown's Valley correspondent of the Marysville *Appeal*, says: There is not a shadow of doubt, in my mind that the Pacific and Dan Webster claims are located on the Pennsylvania lode, and that when once developed and worked, will pay equally as rich as those of the Jefferson and Pennsylvania companies. The pay streaks of this lode are running at an oblique angle of about forty-five degrees, and the Pennsylvania Incline No. 1 has been sunk between two of those pay streaks, and at a distance of 200 feet from the shaft of the Jefferson company. Things look in every respect better than ever, and the next clean up will certainly prove still more satisfactory. The lode to-day is from ten to fifteen feet in thickness, and the quartz all equally rich.

NEVADA.

Washoe—

The *Enterprise* says: There are over seventy mills engaged at present reducing the ores of Storey county, the yield being 1,600 tons per day, which at the fair average of \$25 per ton, amounts to \$40,000 per day, or \$120,000 per month of thirty days, making a grand total yield of \$14,000,000 per year.

From the Gold Hill *News* we clip this item: The Petaluma mill is doing as well as ever. The eight stamps of 500 pounds each, crush from ten to twelve tons of Crown Point rock every twenty-four hours. Eighteen pans perform the amalgamating for the same.

Reese River—

The *Reveille* has the following items: A depth of over one hundred feet is reached on the Joe Douglass, with a good vein showing large quantities of iron sulphurets, with indications of silver. On the Pennsylvania and Nevada the incline has reached a depth of one hundred and thirty feet, with a ledge of about two feet in thickness, showing very rich streaks of ruby silver ore. The High Bridge, or Transylvania, in Philadelphia district, presents altogether remarkable features. A mass of mineral outcrops on the hill like a bold ridge, in an unbroken line for over a hundred feet, and around this ridge, and along the course of the ledge for upwards of a mile, lie defaced masses or boulders of float, every piece of which when broken into exhibits the most beautiful ore. A cut from the foot wall seven feet broad, and extending into the hill nine feet, has been made in the vein, and the head wall has been uncovered below the outcrop, which gives the vein the splendid proportions of twenty feet in thickness, holding in three strata fifteen feet of compact, exquisitely variegated mineral. We brought away from the district a large piece of the ore, which gave an average yield in an assay by Stetefeldt of \$1,750 per ton.

Same paper of June 28th, says: We learn from William Warner that he has just discovered and located two good ledges on Silver Hill, in the Philadelphia district. They are called the Columbia and the Great Western, and they are situated in the neighborhood of the High Bridge, the former being 150 feet from it down the hill. The Great Western ledge is represented to be from twelve to fifteen feet thick, and the Columbia ledge, which had not been cut through, is at least three feet thick. We have received samples of the ore, which appear to be of superior quality, especially that obtained from the Columbia, which is beautifully party-colored, and resembles the rich mineral of the Transylvania and El Dorado. The Great Eastern is now fairly in the field, supplying two mills—the Keystone and the Ware—with the richest of ore for reduction.

In the Astoria work is carried on night and day. The incline has reached a depth of 140 feet. The vein is fully three feet thick. Assays of picked specimens of the mineral yield handsome figures; the chloride, obtained at a depth of forty feet, gave \$649.58, and the sulphuret ore, obtained below the water level, gave the great yield of \$790 of silver per ton. The Asteroid belongs to a Philadelphia company. The developments upon the Murphy No. 2 mine, Twin River, have disclosed a fine body of ore that equals in richness anything in that locality. The Golden Fleece, at the depth of twelve feet, shows rich ore. Upwards of sixty locations have been made and recorded

in Hot Creek district. . . The amount of bullion produced by the Midus mill, from June 1st to the 24th inclusive, was \$35,253.57. Of this sum, \$23,918.42 were obtained from 70½ tons of ore from the Yankee Blade mine, belonging to the company; the ore averaging \$339.26 per ton, and the bullion being of the extraordinary fineness of 994. . . Total shipment of bullion for June from Austin, \$101,516.26. . . The Great Eastern yielded and shipped within one week \$10,417. . . In Palmetto District an incline has been sunk on the Dayton to the depth of fifteen feet, developing a handsome vein of mineral fully five feet thick. Another ledge, called the Kentucky, of mammoth proportions, gives great promise. . . A sample of red oxide of copper, from the Battle Mountain district, near the Humboldt River, exhibited native copper slightly, and yielded eighty-two per cent.; and a sample of copper glance yielded sixty-six per cent. of copper.

The following items are from the Nyc county News: The Pioneer mill, at Ione, is to be sold at Sheriff's sale on July 23d. It is nearly new. "This is one of the best offers for the investment of capital ever made in the country, and we anticipate considerable rivalry among purchasers." . . . The Knickerbocker mill, the finest in the State, without exception, according to the News, is now crushing custom ore. In a few weeks they will be ready to commence crushing ore from the Great Eastern claim, for the purchase of which the company are negotiating.

Esmeralda—

The Union of June 23d, says:—The shaft on the Golden Age & Empire Company, on Last Chance Hill, is already down nearly two hundred and fifty feet, and is being sunk at the rate of two and a half feet every twenty-four hours. . . We are informed by a gentleman just from Patzwick that the Cornucopia company are taking very rich ore out of their mine in large quantities. The Diana claim is also yielding largely. . . The shaft of the Philadelphia Co. has already reached a depth of about one hundred and twenty feet, and is progressing finely. Preparations are going on rapidly for putting up steam hoisting works.

In the Padnet district, organized in January last, the Fitzhugh ledge is the largest as well as the richest, thus far developed. It is sunk to the depth of 27 feet, at which point a large body of decomposed ore is disclosed of some four feet in thickness. A small quantity of ore was crushed at the Del Monte mill, and yielded at the rate of \$130 per ton.

Humboldt County—

Star City correspondent of the Register, June 30th, gives these items:—The Whitmore tunnel is in 450 feet. . . Work in the "American Basin" is prosecuted day and night, and with favorable indications that the ledge is near by. Small seams of quartz, containing mineral, supposed to be feeders of the ledge, are found almost daily. The tunnel is in 750 feet. . . Owing to the demoralized condition of the agent and dilapidated state of the finances, the "Yankee" has been lying idle for some time; but the business management has changed hands, and work is to be resumed.

ARIZONA.

The Miner of June 13th, says every thing is promising in that region, and gives the following items: The Pioneer mills at Wickenburg and Lynx creek have been entirely successful, and feet in the Vulture and Accidental lodes have been sold at high prices. Both these lodes show permanency and great richness. . . The mill for the Sterling lode is already on the ground, and will be ready for use by the 4th of July. The mill for the Big Bug lode, is nearly in place. . . The shaft on the Bully Bueno lode, in the Turkey Creek district, shows quantities of good ore, and, it is reported, that there is to be no further delay in the erection of the Vickroy mill. . . Colonel Wooley's water mill is nearly ready, and the Agua Fria or Goodwin district is acquiring new importance every hour. The last found lode—the Ticconderoga—is said to surpass all others in that vicinity in size and wealth. . . On Lynx creek there is unusual activity, reminding one of the first placer excitement there. The large building for the Lamson mill is enclosed, and a part of the machinery is on hand. . . The shaft on the Eureka lode is fifty feet deep. . . Preparations are making for the Coulter, Tyson and Cummings mill. . . Messrs. Shoup and Griffin are taking fine ore from the Box Elder lode. . . McCrackin and St. James are better pleased than ever with the Deadwood. . . The Pointer lode looks finely. . . Major VanBibber has gone, with a corps of men, to work upon the Golden Wreath, a very rich lode in the Big Bug, and many other lodes in that district are to be opened forthwith. . . Arastras are at work at different points on Granite creek, below the sawmill, Messrs. Noyes & Curtis are running one by water power, and crushing the ore of the Tenth Legion lode, with satisfactory results. . . Mr. Meachin will soon renew work on the Gold Hunter, in the same vicinity, and a number of lodes about Groom creek are soon to be opened.

OREGON.

The Dalles Mountaineer of June 25th, says: The news from the various mining camps still continues good. At Olive creek the mines are paying well; and the leading merchants of Canyon City have all opened branch houses in the camp.

IDAHO.

The Statesman of June 14th, says: The quartz and placer mines about Idaho City are paying well. . . There is not much doing at Rocky Bar. The mills are all idle.

The Avalanche of the 15th has the following: The New York, Enterprise, Cosmos and Jackson mills are starting up. . . The "Greenback," a Philadelphia company, will be at work in Owyhee soon. . . Messrs. Moore & Fegans cleaned up bullion during the present week to the amount of \$13,500.

A letter from Ruby City to the Yreka Union, says the Indians are daily becoming more troublesome. We quote: "The spring opened with fine prospects and times were very lively, but the infernal Indians broke out afresh and killed a great many persons besides stealing a large amount of stock. These depredations checked business, and almost entirely stopped immigration to this place. There were a number of capitalists preparing to come here for the purpose of building mills and opening mines, but when the red devils broke out, they feared to come and take the chance of loss. The consequences are that a damper is placed upon business and no chance for it to revive, until the Indians are cleaned out."

Major Marchel, with one hundred regulars, had a pitched battle with a large body of Indians, and was defeated. It is said that the savages have concentrated on the Upper Owyhee with the intention to make one grand effort to drive the whites from the country.

MONTANA.

The Post of June 23d, has the following items: There are now about twenty-five substantial companies washing gold out of the side-hills and bars on the south side of Alder gulch, opposite the city, and quite a handsome fortune is weekly carried off for division among the partners. . . Reuben Foster, of the Mesler lode, has gone to Benton to inspect the machinery for his mill at Summit. Rumor announces that it is badly damaged by water. . . The demand for labor in Alder gulch continues not only unabated, but constantly increasing. The wages are ranging from \$6 per day, upwards.

Letter to same from Park City, says: The little mill belonging to Adams, McKinstry & Co. is doing a good business crushing rock that pays from \$30 to \$35 per ton. It is the most perfect piece of machinery in the Territory, and is driven night and day. The tunnel on the Clipper, is progressing night and day; it is now about one hundred feet long. They are taking a large amount of pay rock from it, the ledge being about seven feet wide. The owners of the Lady Abbott have commenced work in earnest. . . Messrs. Herrmann & Co. are now busily engaged in putting up their mill on a most desirable site. . . The bar diggings are paying eight to ten dollars per hand, where opened. The companies now engaged in fluming the creek are in high spirits, and think they will be able to give a good report by the 4th of July. Some Californians have discovered a dry gulch, the dirt of which they think will pay for hauling about one mile, to sluice.

Blackfoot correspondent of same, June 16th, says: All is now life, bustle and activity. * * The Bar, which is next to McClellan in richness, but second to none in extent, is now yielding its thousands daily, and by day and night, strings of men can be seen shoveling the rich auriferous soil into sluice boxes. Prairie gulch and Eureka, both tributaries of Carpenter, are also rich, and many companies are at work on them; but owing to the reticence of the miners generally, it is difficult to get any correct estimate of what amount of dust is being taken out.

Helena letter, June 21st, says: "Confederate gulch, having a very deep bed rock, is totally unworked, so far as gulch claims are concerned, although during our stay prospects of one dollar to the pan were obtained upon the discovery claim. Its tributary gulches, Cement, Montana, Greenhorn, Boulder, Baker, etc., are more or less worked, but its great wealth lies in its bars, especially those of Mootuna and Last Chance, just above the city. In the latter there are five claims, paying from wages to thirty dollars a day to the hand, and a dollar and eighty cent prospect was found upon a claim just being opened while we were there. Montana bar contains eight claims, numbered cautiously with the gulch claims, and is worked hydraulically, by five companies. The claim of Smith & Burdell at No. 9, recently cleaned up \$4,000 for a ten hours' run. At Campbell & Co.'s on No. 13, \$10,000 have been recently taken out one week; and Metcalf & Judson on No. 16, are working out \$1,000 per day with thirteen men. We are requested to correct a recent statement that \$13,000 were taken out of this claim in seven days' run. The truth is sufficiently encourag-

ing without resort to exaggeration. This claim of Metcalf & Judson in many places prospects \$6.50 to the square foot, measured on the bed rock. When it is known that the claim embraces an area of forty thousand square feet, the value of this claim may be imagined. On this Montana bar, which old Californians, who are working it assert, is the richest placer mine in the world. Hydraulic mining is very extensively carried on, banks of earth twenty and thirty feet in height are easily washed away, and the golden particles contained therein allowed to lodge in the crevices of the bed rock and flumes, and in the riffles of the sluices."

A letter from Blackfoot City to the Esmeralda Union, dated June 6th, says: I have nothing very encouraging to write about this country. There are many good mining districts and rich claims, but it takes a fortune to buy into one of them. The whole country is overrun with prospectors. They have a large enough field to prospect in, and it will take years to prospect it on account of the shortness of the seasons, there being only about five months warm enough for mining. It takes a man all summer to earn enough to keep him through the winter, and all the old settlers with whom I have conversed are unanimous in declaring that they will never spend another winter here if they can help it.

A letter from Mr. James F. Russell, who is now in Montana, to his brother at Austin, advises every one of his friends about Austin, or in fact, any decent place, never to think of going to Montana. He says "it is a perfect bilk," and he "wouldn't advise a dog to come there." There was a great deal of suffering there last winter, and hundreds would have starved to death had it not been for the game captured, of which there is a great abundance. Reveille.

COLORADO.

The Journal of the 19th June has these items: There is little or nothing going on in Lake Gulch. In Russell some sluices are being put in. Mr. Ford, at the head of the gulch, is building his smelting furnace, and will finish up a 60-foot stack, containing four flues, as soon as he can get brick, two kilns of which are being put up in Russell. Mr. Ford's process contemplates the use of Blake's Crusher and Burr stones for pulverizing, two of Colom's Separators for dressing—all of these are up and have been run—a desulphurizing reverberatory, and a smelting ditto. The Moutezuma works have had steam up for a day or two. . . The Hardisty & Hussey properties in the Barrough's lode were sold the other day for over \$100,000 cash. . . Two hundred Corosh miners came in last week. . . It is said that the Narragansett company has received orders to shut down. We presume it is for the purpose of introducing smelting. . . Lyon's last shipment weighed forty-seven pounds.

Most of the mills in Trail Creek district are silent. The editor of the Journal recently made a trip to that region. He speaks mournfully of the existing state of things. But he brightens up and predicts a "good time coming," as soon as the new and improved smelting processes are introduced in place of the stamps. This will not be done until the present disgust of those who have expended money in bringing into the district machines which are not suited for the working of that class of rock is passed.

The Oro company is getting out good-looking ore. . . The Crystal is looking finely, and yielding eight dollar rock. . . McIntire will have his works in operation within two weeks. . . The Kershaw is getting out good ore in abundance.

The Denver News of June 20th says: A specimen of Emmet ore, assayed at Central City, yielded a fraction over \$7,000 per ton, in silver. The lode has a 13-inch crevice. . . Empire is filling up with new settlers. The old mills are starting up, and new ones are being built or projected. Mr. L. has abandoned the Dodge process, with which his mill was originally supplied, and is substituting that of Behr & Keith.

There is renewed activity all along the Clear Creek Valley. A great many new men are coming in and purchasing mining and mill property.

UTAH.

The Vedette, of July 5th, says:—The mining interests of Utah are advancing with astonishing rapidity. Almost every day capitalists are arriving from the East and West, en-route for Stockton, Pahrnatag and the other mining districts. Two large companies have just been formed in New York, and have machinery en route for this Territory, which is to be used in working some of the Stockton ledges.

Pahrnatag is also attracting a vast amount of capital, and the development of the different ledges is being pushed forward with great rapidity.

The Cottonwood, Bingham Cañon and Deep Creek mines are also being developed with the most favorable prospects. New mines are being discovered daily.

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and examine their stock—also testimonials of the efficiency
of their work from such as have used their hose both for fire
and mining purposes. A diploma was awarded to his as-
sistant, by the Mechanics Institute, of this city, and a silver
medal this year. 1211-1y

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ANNUAL REPORT
—OF THE—
Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLA-
ture of the State of California, entitled "An Act con-
cerning Corporations," passed April 22, 1850, the Pacific In-
surance Company of San Francisco makes the following
Annual Report:
I.—The amount of the Capital Stock of this Company is
SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS. \$750,000
and paid in gold. \$750,000
II.—The amount of the Assets is ONE MILLION AND
FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY-
THREE DOLLARS AND THIRTY-SEVEN CENTS. \$1,514,423.37
III.—The Company has NO DEBTS.
IV.—The amount of insurance effected during the year,
and which remained in force December 31, 1855. \$12,973,949
Marine. 481,408
This Company commenced underwriting Marine Risks,
August 1, 1855.
V.—This Company insures against the following risks,
viz.: BUILDINGS, HOUSEHOLD FURNITURE, MER-
CHANDISE, RENTS, LEASEHOLDS, PERSONS IN PORT
AND THEIR CARGOES, AND OTHER PERSONAL PROP-
ERTY, AGAINST LOSS OR DAMAGE BY FIRE.
Also, ON CARGOES, TREASURES, COMMISSIONS, PROP-
ERTY, AND WAR RISKS, AND ON ALL MARINE AND IN-
LAND NAVIGATION RISKS, TO AND FROM ALL PORTS
IN THE WORLD.
VI.—This Company will take on any FIRST-CLASS RISK
not to exceed \$75,000 (the limit fixed by law), and on all
other risks will reinsure to an extent consistent with PRU-
DENCE in other RESPONSIBLE COMPANIES.
J. HUNT, President.
A. J. RALSTON, Secretary.

San Francisco, January 19 1856.
William Alvord, S. M. Wilson,
Alex. Wells, M. Chaceman,
John Schumann, Wm. Hooper,
Anson G. Stiles, John B. Newton,
John G. Bray, Edward Martin,
D. O. Mills, Wm. Schuchman,
C. Meyer, H. Hansmann,
D. J. Oliver, L. B. Benchley,
Johns Bull, Moses Heller,
W. C. Ralston, William Scholle,
John Wightman, Louis McLane,
L. Sachs, Oliver Edgridge,
Frederick Billings, A. R. Forbes,
J. G. Kellogg.

State of California, City and County of San Francisco, ss.
On this twentieth day of January, A. D. one thousand
eight hundred and sixty-six, personally appeared before
me, H. S. Homans, a Notary Public, in and for the said
City and County, and therein residing, duly commissioned
and sworn, A. J. Ralston, who being duly sworn, did depose
and say that he is the Secretary of the Pacific Insurance
Company, and that the statements contained in the fore-
going Report of the Pacific Insurance Company are true,
full and correct.
Sworn and subscribed to before me, this 19th day of Janu-
ary, A. D. 1856. H. S. HOMANS, Notary Public.
5112-3m

Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

G. W. M. SMITH. W. B. EWER. A. T. DEWEY.
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American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the Mining and Scientific Press Patent Agency. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

San Francisco:

Saturday Morning, July 14, 1866.

CONCESSION OF LOWER CALIFORNIA.

The mail of Tuesday last brings a full report of the details of the great Colonization Scheme, recently set on foot in Lower California. It appears that the concession embraces the entire of the Peninsula of Lower California, together with the islands, bays, harbors, streams, fisheries, etc., naturally belonging thereto. The grant combines 46,800 square miles of territory.

The nature of the concession is that within five years the grantees shall introduce into the Territory at least 200 colonizing families, and shall pay over to the Mexican Government the sum of \$100,000, previous to May 10, 1866. The money has been paid. All existing Mexican and other rights are to be respected.

The concession is obtained from the Liberal Government, through M. Romero, the Mexican Minister at Washington, and the proper officers of the government of Juarez.

The proprietors named consist of thirty-seven persons, resident mainly in New York and San Francisco. Among them we notice the following names:

Jacob P. Leese, Charles D. Poston, George Wilkes, Benjamin F. Butler, Samuel Brannan, John Parrott, A. B. Forbes, S. W. Inge, Cornelius K. Garrison, Caleb Cushing, Benjamin Holladay, John Sime, Jesse Holladay, Louis McLane, William G. Fergo, Leonard W. Jerome, Joseph W. Wians.

THE WATER DITCH TAX.—The ditch owners throughout the State, are taking measures to unite in laying before Congress such facts in relation to ditch investments, as will insure a reduction of the 2½ per cent. tax now laid upon the gross receipts of sales of water. It is justly urged that no unnecessary incumbrances should be placed upon mining, inasmuch as every dollar taken out of the earth, by miners, increases the wealth of the country. We fully agree with the ditch owners in the sentiment expressed in their circular, that if the tax cannot be entirely repealed, it ought at least to be confined to the nett, rather than the gross receipts.

MINING DITCHES AND CANALS TO BE PROTECTED.—Mr. Higby, from the Committee on Mines and Mining, has reported, and the House has passed a bill granting the right of way to ditch and canal owners over public lands. It grants to every company or individual who has, in accordance with the laws of the States of California, Oregon and Nevada, or of the United States, constructed, or who may hereafter construct, canals, ditches, flumes, etc., for the conveyance of water for mining, mechanical or agricultural purposes, the right of way over the public lands so long as such canals shall be used for such purposes.

DEATH OF A NOTED ARCHITECT.—Reuben Clark, Esq., for several years architect of the State Capitol, died on the 4th in the Insane Asylum at Stockton, from softening of the brain. Deceased was an old pioneer of this State, an architect of much merit, and highly esteemed by his acquaintances. His steady application to business produced such an effect on his brain that some months since his friends thought it best to put him in the Asylum for treatment, but the best of nursing proved of no avail. Deceased leaves a wife and three children. His funeral took place in San Francisco on Saturday last.

THE NEW BILL FOR THE SALE OF THE MINES.

The great objection which has heretofore obtained with regard to the sale of the mineral lands, is the absurd idea of rectangular surveys, which has been hitherto incorporated into all the bills proposed. It has seemed impossible for members of Congress from the Eastern States to adequately comprehend the true condition of mining operations on the Pacific coast; while the unpopularity here of all propositions heretofore proposed for the sale of the mines has been such as to deter any member from the Mining States from venturing upon either the proposition or support of any measure, whatever, looking to a change in our mining policy. The unmistakable determination, however, which has recently appeared on the part of a majority in Congress to force, at all hazards, the passage of some kind of a bill for the sale of the mines, has finally induced the mining representatives themselves, to bring forward a bill which seems well calculated to accomplish the end determined upon, with the least possible detriment to mining interests. In accordance with this conclusion, Mr. Conness has introduced the bill which we published in our issue of the 30th ult.; and which passed the Senate on the 27th, very nearly or perhaps in identically the same form in which it has reached us by mail.

This bill is nothing more nor less than putting into the form of a congressional act those local laws, which a practical experience of sixteen years has induced the miners of the Pacific Slope to adopt as the "Rules and Regulations" by which they have almost unanimously agreed among themselves to be governed, in the absence of all legislative enactments. These laws have thus far been found to work admirably, with the single exception of the imperfect manner in which the boundaries of locations have been made and defined. This objection is removed by the requirement, under the proposed bill, of an accurate survey and record by plot and description, from which there can be no deviation. The only other variations are the non-requirement of any specified amount of work to perfect the title, and the disposition of the ground by the acre instead of by the foot.

With regard to the performance of labor to perfect a title, every miner knows that the rule, as at present established, is a mere farce; while a disposition of the ground by the acre instead of by the foot, is necessary in order to compel the locator to accurately define his boundaries. If he takes up his ground by the foot, and pays for it by the foot, it will be impossible for him to know himself where his claim runs, until months and perhaps years are expended in prospecting; on the contrary, in laying off his claim by the acre, it will cost but a trifle to include land enough to cover all contingencies; while the money thus appropriated will be turned at once to public benefit in paying off our national indebtedness, instead of being frittered away to no earthly purpose to any one.

The bill of Mr. Conness, so far as the mines are concerned, is confined exclusively to "veins," "containing gold, silver, copper and cinnabar." Placer mines are not included. Lead mines would not be included did they not contain silver, which all on this coast do, to a notable amount.

HOW LOCATIONS ARE TO BE MADE.

Locations can be made by individuals or associations, as is now done. The location is to be made precisely as under our present local laws, where dips and angles are considered, but not by square claims. The act provides that when a vein is occupied and improved according to the local laws of the district where it is situated, the claimant may file in the local land office a plot of the same; and that it shall thereupon be the duty of the Register of the Land Office to publish a notice of the same in the newspaper published nearest to the location of said claim, and also post the same notice in his office for a period of ninety days; after which time, if no other claimant shall appear, it shall be the further duty of the Surveyor General, upon the application of the

claimant, to survey the plot as filed, and upon the payment of \$5 per acre, to transmit the same to the general land office, for which a patent shall issue to the claimant. The surveyor must charge his mileage from the county seat of the county where the claim is located. The claim covers "the vein or rock, with all its dips, angles and variations, to any depth, although it may enter the land adjoining, which land will be sold only subject to this condition." All locations heretofore made, in accordance with local laws, can be filed and entered as above, but "no location hereafter shall exceed 300 feet in length along the vein, for each locator, with an additional claim for discovery," "with a reasonable quantity of surface for the convenient working of the same." Under this law the title, when completed, will be perfect, and jumping will be out of the question. Neither can any adverse claimant come in after the ninety days' notice has expired. The owner may develop his mine at his leisure.

The general government will call for no fee or tax, after the \$5 per acre has been paid, until, by working the mine, the owner shall derive a profit over expenses, when he will be called upon for three per cent. of said net profits. This will be a lighter burthen than the slight tax now collected upon the gross proceeds of the mines.

It will thus be perceived that the proposed law gives the miner a perfect title to his vein, allows him, by his local laws, to decide how and when a vein may be pre-empted, subject only to being confined to 300 feet in extent, and leaves him to manage his affairs about as much as he now does.

OBJECTIONS TO THE BILL.

The principal objections urged against the bill, are that it opens the door for indefinite legislation upon the mines; that it provides a policy full of machinery, which will cost both the miner and the government more than is anticipated; so much indeed, that the government will derive so very little pecuniary benefit from it that further legislation will soon be demanded; that it will open a door for taxation, by both the National and State Government, by which the miners will be loaded down with a burthen, which may render many mines that are now worked quite unproductive in the future, and finally, that under this bill, a system of monopoly may grow up, by which individuals and companies may acquire large tracts of ground, not for the purpose of mining, but for holding until they shall be increased in value by the operations of miners around them, or until a depreciation in wages and cost of living and machinery shall make them more productive than at present.

The objection urged by the Marysville Appeal against the provision which allows the miner to follow the dip of his vein under the ground of his neighbor, does not appear to be well taken; on the contrary, we look upon that as one of the most important provisions of the bill, and without which no mines can be worked effectually. Where rights have already been acquired under the "square claim" location, those rights will be respected by this bill; but no one with any experience in mining would think of perpetuating such a system.

The papers generally throughout the State and Nevada, appear to approve of the bill; and so far as we can judge, there is a general feeling favorable to its passage, as a necessity for quieting the public mind upon this vexatious question.

QUARTZ MINERS' CONVENTION.—Pursuant to public notice, the quartz miners of Placer county assembled in Convention at Auburn, on Saturday, the 30th of June last. The Convention was called for the especial purpose of adopting a uniform code of laws for the county, and a single and safe place for the record of claims. The Convention was organized by a vote of 40 yeas to 39 nays, immediately after which it was voted to adjourn sine die. It would appear from this action, that the miners of that county were averse to disturbing the present condition of things in that county, with reference to the location and holding of mining claims.

NEW BOOKS.

POEMS BY SARAH F. CARMICHAEL.—A brief selection, published by permission of the Authoress, for private circulation. San Francisco: Towne & Bacon, Publishers, 1866.

This little volume has been issued from the press of Towne & Bacon, in the best style of the typographical art, and is for sale, chiefly by subscription. It comprises a selection of twenty-seven poems, from a much larger number, which have been written by the fair young authoress, who is a resident of Salt Lake City, and we presume it is betraying no trust of friendship to state that one object for which her friends have solicited these poems for publication, is that they may thereby be enabled to raise a small fund in aid of an effort to enable this gifted child of song, to change her residence to some spot where she may be placed more in sympathy with the world around her, and where she may enjoy the advantages of books and intellectual training in the midst of the soul-expanding influences of a cultivated and liberal public sentiment. Miss Carmichel evidently possesses no ordinary genius as a poetical writer; while her songs take a wide and glorious flight; "ever loyal to truth and humanity, ever sweet and melodious as the voice of nature." The following is the opening portion of a poem entitled "The Stolen Sunbeam:"

There's a light that burns with a quenchless glow,
In the wide, deep caverns of earth below;
Like the fire that lives on the Parsee's shrine,
Is the amber torch of the lighted mine.
Burning forever, steadily bright;
Flickering never, a changeless light;
Proud and passionless, still and fair;
Burning forever without a glare;
Burning forever, so still and deep,
A quenchless flame in a dreamless sleep;
And Time's broad ocean may roll its waves
While space hath room for the centuries' graves;
It hath not billows to dim the shine
Of the wizard fog that lights the mine.

CLARKE'S NEW SCHOOL GEOGRAPHY, forming the Third Part of Bancroft's Geographical and Historical Series, by Charles Russell Clarke, A. M., Principal of the City Female Seminary, of San Francisco. San Francisco: H. H. Bancroft & Company, 1866.

Mr. Clarke has done a good thing in the aid of education on the Pacific Coast, by the preparation of his new School Geography. The chief feature of interest in the work to Californians is the large amount of space allowed to the Pacific Coast, and those countries in more immediate commercial connection with California. This portion of the work contains much material never before published. The book likewise presents other important and peculiar characteristics in its arrangement and composition. It has been the aim of the author, in its preparation, to so write, that while conveying information to the mind of the pupil, he may at the same time aid in the development of a proper and valuable mental habit—that of connecting cause and effect; of moving backwards and forwards toward the causes and results of facts learned. The end is accomplished by making it an invariable rule never to state a fact without a reference to some one of its causes or effects. The result of this method of teaching—of being incessantly asking reasons and results—is such, that after a pupil has laid aside his books, he cannot avoid constantly asking and answering himself the same class of questions; the thing becomes a habit, and this habit is one of the most useful which can attach to a thinking being.

Education is too often made to consist of a mere aggregation of unconnected facts, instead of being reduced to a clear and systematic tracing of the relation between cause and effect, as has been done by Mr. Clarke in the preparation of his new geography.

Mr. Clarke has shown by his successful efforts as a teacher, and by the able lecture delivered by him before the State Teachers' Institute, September 20, 1865, that he thoroughly understands the science of teaching. His present effort is a really valuable addition to common school literature, and is plainly the natural outgrowth of experience in his profession. The work has been received with the highest favor by all the principal teachers in this city, and has been adopted in all our Public Schools.

by a special vote of the City Board of Education. It should be found in every school, both public and private, throughout the State. The book is published in a convenient quarto form of over one hundred pages, by H. H. Bancroft & Co., of this city.

A PRACTICAL HAND BOOK FOR MINERS, METALLURGISTS AND ASSAYERS, by JAMES SILVERSMITH, author of "Metallic and Agricultural Wealth of the Pacific States," "Miners' Companion and Guide," etc.; Editor of "American Mining Index," New York; Corresponding Member of the several Scientific Associations in the Pacific States. Comprising the most recent improvements in the Disintegration, Amalgamation, Smelting and Parting of the Precious Ores containing Gold, Silver, Copper, Tin, Quicksilver, etc., etc., with a Comprehensive Digest of the Mining Laws. Profusely Illustrated. New York, 1866.

The want of such a handbook as this work purports to be has been long acknowledged in the United States; and whatever may be the shortcomings of a treatise intended to supply that want, it should receive a hearty welcome at the hands of both practical and scientific men, if it be but honest, reliable and well meant. It is by this standard that we propose to try Mr. Silversmith's book, and not by the rigid rule which should be applied to a comprehensive and thorough discussion of any one of the numerous topics of which it treats. A brief analysis of its contents will bring us most directly to the desired end. Were it not for the fact, however, that the author is less known to new comers to this coast, than to many experienced Californians, there would be no occasion for our comments.

The preface to the first edition informs us that the book is "mainly indebted to the works of Whitney, Werner, Ure, Phillips and Orton." We are naturally led to expect quotations and extracts from these eminent authors, but hardly prepared for the wholesale plagiarism which follows this plausible and candid introduction. The first chapter, comprising more than fifty pages, which treats of the "Principles of Mining," is transferred, *verbatim et literatim*, from Prof. Whitney's "Metallic Wealth of the United States," without a word of credit or a quotation mark. In one instance a sentence, which would otherwise have betrayed its origin, has been altered, so as to allude to the "Metallic Wealth," thus:

Whitney. "In that part of this work, which treats of numerous metallic wealth, treating of example will be given," etc. Silversmith. "In that part of Whitney's 'Metallic Wealth,' treating of numerous examples are given," etc.

This is the only variation from the original for fifty pages. The wood-cuts have been appropriated as well as the text; but they are reproduced so clumsily as to lose their clearness and value; what was white in Whitney appearing black in Silversmith, and *vice versa*, while the figures in every case are presented either upside down, or wrong end foremost.

To this huge appropriation from Prof. Whitney is spliced, so neatly that the joint can hardly be discovered, a page or two of other compilation, in the midst of which appears, as a monument of conscientiousness, a paragraph of a dozen lines, in quotation marks, and credited with care to Prof. Whitney. Let tyros in the noble art of larceny learn how to practice it with gentlemanly grace from this illustrious example. Having "compiled," say, a thousand dollars, out of some eminent citizen's pocket-book or till, honesty requires you, O polite burglar! to drop him a line and acknowledge your indebtedness; and, would you add a fine touch of courtesy, then join thereto a postscript, informing him that you have the honor to return herewith your check for twenty-five cents. The churlish capitalist who could, in view of such handsome treatment, object to your quiet possession of his money, or even to your setting up in business on the strength of it, would deserve, and receive, the reprobation of all intelligent men.

The editor of this *Practical Hand-Book* is not destitute of originality. We have seen in what an original, almost unoriginal, style he can appropriate the property of others; and we shall have occasion to admire new phases of his skill in that department. The chapter headed "Manual of Mining and Metallurgy," however, contains some passages which bear internal evidence that they proceeded from his own keen observation and deep reflection. The statement, for instance, that "granite rocks very seldom include silver," will send a thrill of sorrowful reflection through Central Nevada, and doubtless put a stop at once to the so-called silver mines of the granite belts of Reese River and Smoky Valley. The deluded inhabitants of that country were under the hallucination that they had already mined, reduced, melted into bars and sold about \$2,000,000 worth of silver since their worthless granite was first discovered, three years ago; but they will now see at once the impossibility of all this; and, if

they are sensible, they will devote the fortunes they have accumulated under a mistake to the purchase and distribution of the *Practical Hand-Book*, that their fatal delusion may be dissipated.

Under the head of "Metals—their Chemistry and Geology," we are told that assaying "is the determination of the quantity of metal contained in any particular ore, to discover whether it will be worth while to extract it largely, and in what manner the process is to be conducted," and that "the knowledge requisite for this is called the *docimastic art*!"

Notes of admiration but feebly express our sensations in view of this brilliant definition. In strict accordance with it, the author has collected, as so much ore, the works of Whitney, Kustel, Lamhorn, Phillips, Ure, Orton, three conflicting systems of mineralogy, and all the advertisements of all the inventors of all the new contrivances for "taking out all the metal" contained in all the ores of all the world; and having "assayed" these rich deposits, and made up his mind that it would be "worth while to extract largely," he has filled the remainder of this wonderful volume with trophies of this "docimastic art." It is of course somewhat difficult to recognize the original ore after it has passed through Silversmith's process, and there is room for the slightest possible suspicion that these scraps of metal are dress and sweepings from Silversmith's work-shop; but the "Correspondent of the several scientific associations in the Pacific States" (with none of which we have any acquaintance), would never swindle the public in that way; and we dismiss the unworthy thought. How overpowering is the display of first-class mining and metallurgical machinery which now bursts upon us! Thunderbolt crushers, revolving desulphurizers, gigantic grinders, curious concentrators, astounding amalgamators, all pictured as they will look when they once get erected and into successful operation, succeed each other with bewildering splendor. The impartial editor has treated each with equal justice, by adopting into the text whatever the inventor chose to say of his own invention. The result is quite invaluable as a "practical hand-book" to the miner, who will find, on consulting these pages, not merely the best machinery and the best process for his purpose, but a dozen different ones, each of which is the best. There is also this great additional advantage, that when he is tired of it as a *Practical Hand-Book*, he can give it to a friend as a *Practical Joke*.

We have no especial acquaintance with the author of this volume. We now recognize him only as the editor of a mining paper which seems destined to effect, among other great changes, a revolution in geographical science. At the head of this sheet is an ornamental title, the central device of which is a partial view of the globe, bearing the Pacific Ocean, bounded on the west by North America, on the south by Panama and Aspinwall, and on the east by an unknown continent, which has not yet received its permanent title at the hands of the new geographer. Perhaps it is a mining district, hereafter to be developed.

THE PATENT OFFICE is now preparing a plate for a new *vignette* with which to ornament the head of the patent warrants issued by the Department, and is to resume the printing of specifications or descriptions of inventions which accompanies each warrant upon which the patentee's right is vested. Heretofore these specifications have been attached in writing, excepting for a short time under the administration of Commissioner Holloway, when the experiment was tried of printing, which brought the office heavily into debt, and was consequently abandoned. In the issuing of all European patents, these specifications are printed, and it is evident the plan should be adopted in this country. Patentees will be enabled to obtain duplicate copies of their descriptions at a very small cost. This new arrangement goes into effect August 1st.

Commissioner Theaker issued 165 new patents for the week ending June 12th. One of these issues was to Mr. Ellicott, of this State, for a new scientific instrument, termed a photometer, for measuring light; and which is spoken of in the highest terms among scientific men at the East, whose attention has been called to the advantages of the instrument.

QUARTZ VEINS IN AMADOR.—The *Amador Ledger*, of July 7th, has an editorial on the subject of the quartz veins in that county. It calls attention to the fact that they are directly upon the great gold bearing range of the State. It deprecates the misrepresentation so commonly practised, believing that the mines can stand upon their own merits, and that they will, in good time, attract the attention of capitalists. The article closes thus: "We have the richest mines in the State, languishing because the poorest men in the State own them."

CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

LIEUT. J. H. NAPIER, of Placerville, has sent us a very fine specimen from a ledge which he has recently discovered about half a mile north of the town, in what is known as Poverty Point District. The lode has been opened to the depth of about twenty feet only, where it shows a width of thirty-six inches, with a prospect of still increasing in width as they go down. It has been called the Napier ledge. Gold is found throughout the entire lode, and even into the casing. The specimen sent us shows free gold sprinkled quite freely over one entire side. The general appearance of the rock is quite promising, and will doubtless be found to contain a large amount of sulphure as soon as any considerable depth is attained.

W. BOSWORTH, President of the Golden Rule Mining Company, has placed in our cabinet a very fine specimen of quartz, from that company's mine, located two and a half miles south of Jamestown, Tuolumne county. The specimen consists of a very dark variety of quartz, interseamed with slate, and plentifully spangled with bright, yellow gold. If the company can find two or three tons of such specimens, it would make them all rich. The Third Annual Report of the Secretary will be found in another column. This exhibit there given of the company's affairs is certainly very flattering to its stockholders.

CRUDE PETROLEUM FOR TREES.—An Eastern exchange says that crude petroleum is being extensively used in Western New York for the destruction of insects on trees. It was found that the acids of refined petroleum were injurious to the trees themselves, but the crude is said to be harmless, and has the desired effect in permanently destroying the vermin.

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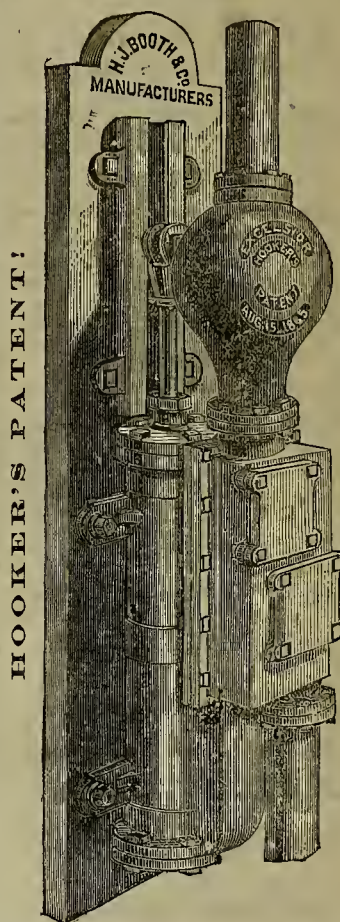
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THE PRESS is a large, sixteen page paper, and is truly a valuable assistant to the mining interests of the Pacific Coast.—[Nye County News.]

NEW BOOKS.—The Mechanics' Institute has received from England, a box containing twenty-seven volumes of books, issued by the patent office of that country, and containing information upon various branches of manufacture and mechanics. They come as a present from Mr. George Gordon, of San Francisco, a member of the Institute, who is now traveling in Europe.

ACCORDING to a report of Dr. Hayes, State Assayer of Massachusetts, the gold mines of New Hampshire are found to yield per ton \$867 in gold; the mixed quartz, talcose slate, gozzan, pyrites, etc., yields, upon analysis, \$310.42 per ton.

OIL IN SCOTLAND.—Scotland bids fair to rival Pennsylvania in that new source of wealth, which consists in "striking ile."

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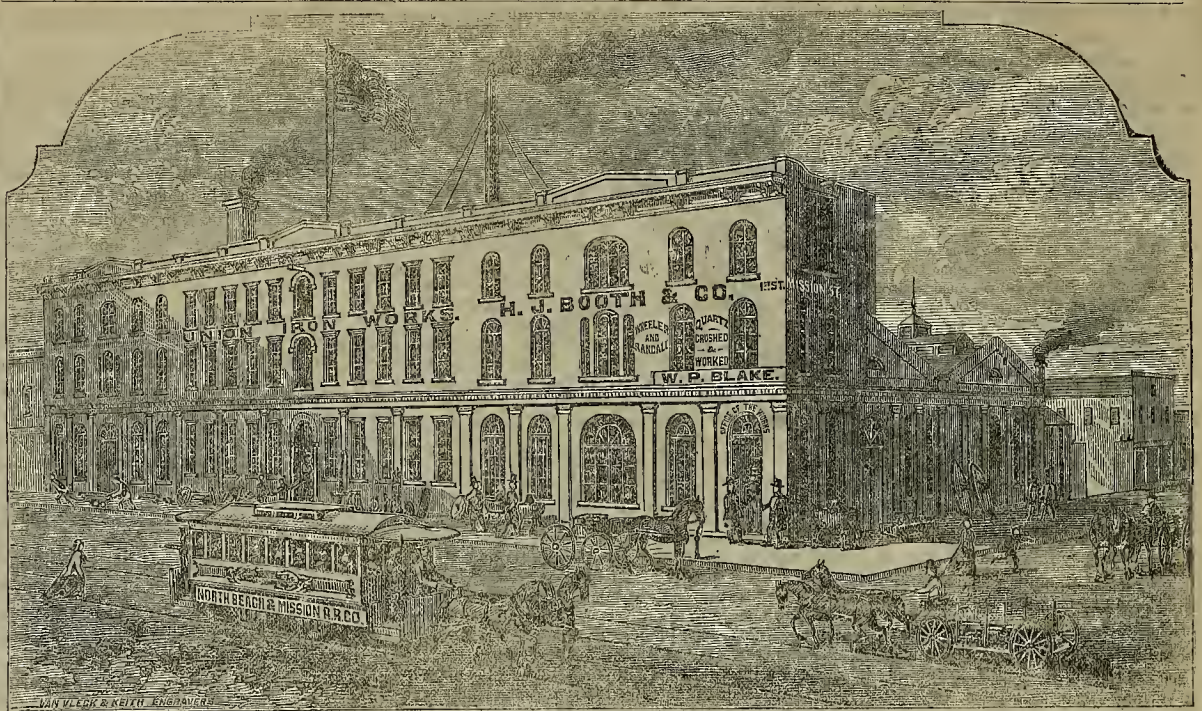
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Pacific Coast owned and conducted by Practical Boiler
Makers. All orders for New Work and the repairing of Old
Work, executed at order, and warranted as to quality.
Old Stand, corner of Bush and Market streets, opposite
Oriental Hotel, San Francisco.

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FLYNN & FRANCE,
EMPIRE FOUNDRY,

221 Mission street, below Beale, San Francisco, PRACTI-
CAL IRON FOUNDERS, having unequalled facilities for
the manufacture of Light Fancy Castings, particular at-
tention will be given to this department. We manufacture
School Seats and Desks, Agricultural Implements, Railing,
Ship Castings, Stake Irons, and all other kinds of Heavy and
Light Castings, with dispatch. The patronage of the pub-
lic is respectfully solicited. 24v12-ly

HANSCOM & CO.,

{ T. PENDERGAST, {
H. S. SMITH. { W. W. HANSCOM.

South-east corner Fremont and Tehama streets,
SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE

STEAM ENGINES,

QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting

PISTON PACKING,
Now so extensively used in the East and in this State. Re-
quires no springs or screws; is always steam-tight; without
excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else

Wheeler & Randall's New Grinder and
Amalgamator,
Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,
Giving greater power, at lower cost, than any wheel in use
Send for one of our circulars, giving full tables

All Wheels warranted to give the power as set forth, or
the money will be refunded.

Sole makers for this coast of the "Pendergast
White Iron Stamp Shoes and Dies.

None genuine unless obtained from us. Every one war-
ranted.

Patented Machinery of all kinds will be furnished by us
at market prices. Particular attention given to drawings
and specifications of machinery, which will be made to
order. The patronage of the public is respectfully solicited.
18v12

NETTUNE IRON WORKS,

Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MARINE
Locomotive,
And all kinds of
HIGH PRESSURE

Steam Boilers
MADE

All Boilers guaranteed and
tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.

All kinds of Sheet Iron and
Water Pipe, Coal Oil
Stills, Wrought Iron
Worms, etc., etc.
Manufactured to Order.

Old Boilers Repaired
D. CAMERON.

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JAMES MACKEN,
COPPERSMITH.

No. 226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best
manner. Particular attention paid to Steamboat, Sugar
House and Distillery work.

Repairing promptly and neatly attended to.
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M. REYNOLDS,
COPPERSMITH

—AND—
SHEET IRON WORKER,

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ALL KINDS OF COOKING UTENSILS
thinned and made to order. 16v12-3m

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NELSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired
with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston
Packing, for new and old cylinders, manufactured
to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

Miners' Foundry

—AND—
MACHINE WORKS,

First St., between Howard and Folsom Streets,
SAN FRANCISCO.

EVERY description of Iron and Brass Machinery, the
BEST and MOST ECONOMICAL, manufactured in the
State of California, will be furnished with dispatch at the
MINERS' FOUNDRY AND MACHINE WORKS, such as

Steam Engines and Boilers, Flour, Saw and Quartz Mills,
Machinery, Mining Pumps, Amalgamators,
Retorts, Etc., Etc.

Particular attention will be given to the manufacture of
Machinery in Sections designed for places of difficult ac-
cess. Various models of Quartz Crushers, Amalgamators
and Water Wheels—some in operation and on exhibition.

* Parties desiring to test their ores practically, in small
quantities, will be afforded ample facilities, rank or cost.

All parties desiring accurate and highly finished drawings
and superior Machinery, at most reasonable rates, are cor-
dially invited to call before contracting elsewhere.

HOWLAND, ANGEL & KING

M. GREENBERG. W. H. MOORE.

GREENBERG & MOORE,

Eagle Brass Foundry,

No. 43 First street, San Francisco,

(Between Mission and Market.)

MANUFACTURERS OF
all kinds of Brass and
Bell Castings; Force
and Lift Pumps; Cocks
and Valves of every de-
scription made and re-
paired; Oil Globes, Steam
Whistles, Hydraulic Pipe
and Nozzles (for Mining
purposes). Also, ALL
COUPLINGS OF ALL
SIZES.

Particular attention paid to Hydraulic Pipes and
Nozzles; also, to Ship Work of all descriptions. All orders
from the interior will be attended to with promptness and
dispatch. 23v12-3m

GEORGE T. PRACY,
MACHINE WORKS,

Nos 109 and 111 Fremont street, near corner of Mission,
OPPOSITE MECHANICS' MILL,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,

—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND
REPAIRED.

Special attention paid to Repairing. 24 qy-3

Familiar Science.

WHY DOES WATER EXTINGUISH A FIRE?—For two reasons: First, because the conversion of water into steam drives off the heat of the burning fuel; and second, because the water forms a coating over the fuel, which keeps it from the oxygen of the atmosphere. A little water makes a fire fiercer; while a larger quantity puts it out. The reason of this may be explained as follows: Water is composed of oxygen and hydrogen; when, therefore, there is only a little water thrown upon a fire the water is decomposed into its simple elements, the hydrogen burning with a flame, and the liberated oxygen aiding the oxygen of the atmosphere in giving intensity to that flame. Hence, when a house is well on fire a little water thrown upon it is worse than none. It is of no use to put water on a fire unless you put on enough to thoroughly quench it. A stream of water from a fire engine, thrown into the midst of a large fire, only adds to its intensity. A skillful fireman knows this, and attacks the fire at one edge or extremity, and advances toward the heat of the conflagration only so fast as he has thoroughly extinguished the flames in the portion which he attacks. The water must be thrown so rapidly and abundantly that the fire cannot decompose it.

WHY CAN YOU NOT LIGHT A PAPER IN A LAMP CHIMNEY?—If a piece of paper be laid flat on a surface of burning coals, not in a blaze, the paper will not light, but char. The reason for this is, because the carbon of the coal is composed of nites with the oxygen of the air and forms carbonic acid gas, which immediately surrounds the paper, keeping away the oxygen, so that it cannot blaze. If you blow upon the paper with sufficient force to drive off the carbonic acid gas, the paper will immediately blaze.

In burning a coal oil lamp, two products are formed—water, which passes off through the chimney in the shape of invisible steam as fast as it is formed, and carbonic acid gas, both of which refuse to burn except at a greater heat than is formed in the lamp chimney. Now, when you thrust a piece of paper down a chimney, or hold it over the top, it is enveloped in an atmosphere of steam and carbonic acid gas, in which it cannot blaze at the heat generated, although it is hot enough to gradually convert it into coal.

CURIOUS EFFECTS OF OIL UPON THE SURFACE OF WATER.—Tie a piece of string around a tumbler; then secure to this two other pieces of string, one to each side of the tumbler, so that they may be made to meet above it, in a knot, at about a foot distance from the top of the tumbler. Then putting as much water as will fill about one-third part of the tumbler, lift it up by the knot, and swing it to and fro in the air; the water will keep its place as steadily in the glass as if it were ice. But pour gently in upon the water about as much oil, and then again swing it in the air as before, the tranquillity before possessed by the water will be transferred to the surface of the oil, and the water under it will be violently agitated.

ANOTHER CURIOUS EXPERIMENT WITH OIL AND WATER.—Drop a small quantity of oil into water agitated by the wind; it will immediately spread itself with surprising swiftness upon the surface, and the oil, though scarcely more than a teaspoonful, will produce an instant calm over a space several yards square. It should be done on the windward side of the pond or river, and you will observe it extend to the size of nearly half an acre, making it appear as smooth as a looking-glass. One remarkable circumstance in this experiment is the sudden, wide, and forcible spreading of a drop of oil on the surface of the water; for if a drop of oil be put upon a highly-polished marble table, or a looking-glass laid horizontally, the drop remains in its place, spreading but very little; but when dropped on water, it spreads instantly many feet round, becoming so thin as to produce the prismatic colors for a considerable space, and beyond them, so much thinner as to be invisible, except in its effect in smoothing the waves at a much greater distance. It seems as if a repulsion of its particles took place as soon as it touched the water, and so strong as to act on other bodies swimming on the surface, as straw, leaves, chips, etc., forcing them to recede every way from the drop, as from a centre, leaving a large clear space.

AN AGREEABLE EXPERIMENT may be made by procuring a basin of milk-water, into which may be thrown half a dozen pieces of camphor about the size of a pea; they will soon begin to move, and acquire a rotary and progressive motion, which will continue for a considerable time. If now one drop of oil of turpentine, or sweet oil, or gin, be let fall upon the water, the pieces of camphor will dart away, and be deprived of their motion and vivacity. Little pieces of cork, that have been soaked in ether, act much in the same way as camphor when thrown upon water. Camphor, being highly combustible, will burn if ignited while floating upon water, producing a singular effect.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Eyerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

Metallurgy.

G. KUSTEL,

Metallurgist and Mining Engineer,

Stevenson House, corner Montgomery and California sts.

Ores Analyzed.

Advice given, and Plans furnished for working of different

Ores. Mines examined and reported upon.

20v11 3m

BOALT & STETEFELDT,

Metallurgists and Mining Engineers

AUSTIN, NEVADA.

Western Branch of ADELBURG & RAYMOND, No. 50

Broadway, New York. 11v11

G. W. MAYNARD, J. H. TIEMANN,

MAYNARD & TIEMANN,

Mining Engineers and Metallurgists,

249 Pearl Street, New York,

—AND—

CENTRAL CITY, COLORADO.

19v12 1y

Copper, Lead, Gold, Silver,

Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,

Agent for Townsend Wood & Co., Swansea,

No. 405 California Street, San Francisco.

15v10 3m

Copper Ore! Copper Ore!

BOUGHT BY

CONROY & O'CONNOR,

Front, near Pine Street, San Francisco.

18v12 1f

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney for N. Haskell, for the sale of his COPPER & SILVER MINING CLAIMS, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to

21v12 At Coffey & Risdon's, San Francisco.

SODIUM,

Potassium, Magnesium,

And a fresh supply of

PURE CHEMICALS.

Just received and for sale by

JOHN TAYLOR & CO.,

4v12 1m 512 Washington street.

MARTIN & CO.,

Office, Stevenson House,

Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE

PURCHASE OF COPPER ORES,

Assaying eight per cent. and upwards of Copper to the

We will make advances upon Ores of Copper. 22

San Francisco, Post Office Box 1229.

EUROPEAN METALLURGICAL WORKS,

—AND—

Practical Mining School,

Bryant Street, Between Third and Fourth,

SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphuret, pyrites, and the so-called "rebellious ores," are having special attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

S. P. KIMBALL, J. R. MURPHY,

10v10

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN

ASSAYERS' MATERIALS,

Druggists' and Chemists' Glassware,

Photographic Stock, Etc.

612 and 514 Washington Street,

SAN FRANCISCO.

—AND—

WE are receiving direct from MESSRS. LADD & OERT

LING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern

States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE

CANNES, GOLD SCALES, CHEMICAL GLASSWARE, and

every article required for ASSAY OFFICES, LABORATO-

RIES, etc. We have given this branch of our business par-

ticular attention, to select such articles as are necessary

in the development of the mineral wealth of this coast.

We also Assortment of DRUGGISTS' GLASSWARE and

DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, con-

stantly on hand. 11v10 4f

San Francisco March 6, 1865.

California Steam Navigation

COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE

" CHRYSOPELUS.....CAPT. A. FOSTER

" YOSEMITE.....CAPT. W. BRONLEY

" CORNELIA.....CAPT. B. CONCKLIN

One of the above steamers leave BROADWAY WHARF

at 4 o'clock P. M. EVERY DAY (Sundays excepted), for

Sacramento and Stockton, connecting with light draft

steamers for Marysville, Colusa, Chico, and Red Bluff.

Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA,

ACTIVE and SENATOR, leave, as advertised, for Hon-

olulu, Portland, Oregon, New Westminster, British Colum-

bia, Victoria, V. I., Santa Barbara, San Pedro, and San

Diego. Office of the Company, northeast corner of Front and

Jackson streets. B. M. HARTSHORN, President.

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents 21v12 F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL,
K Street, between Third and Fourth,
SACRAMENTO,

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new and well furnished. No expense has been saved to make it comfortable and pleasant for guests.

Price of Rooms very low. Meals, 25 cents. 8v12 6m B. ERENMEYER.

BRANNAN HOUSE,
(Formerly Vernon.)
J Street, between Front and Second streets,
SACRAMENTO.

FIRST-CLASS ACCOMMODATIONS CAN BE HAD. 8v12 3m MRS. J. DUNN, Proprietress.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing. Meals.....25 cents. Board, per week.....\$4.00. Single Rooms.....1.00. Railroad Ticket Office and Stage Office on first floor. 7v12 3m A. J. SENATZ, Proprietor.

CALIFORNIA BUILDING AND LOAN SOCIETY
Removal Notice.

THE DIRECTORS OF THE CALIFORNIA BUILDING AND LOAN SOCIETY, announce to the public the removal of their business to their

NEW BANKING HOUSE, California Street, one Door from Sansome.

LOANS. The Directors propose an extension of their Banking accommodation to the assistance of—

First—The Purchase of Real Estate. Second—The Erection of Houses. Third—The Erection of Manufactories. Fourth—The Building of Sea and River Vessels of all sizes. Fifth—Merchandise Cash Credits on the Scottish principle, for such time as may be agreed upon.

Under the above general heads, loans will be made for terms of years to correspond with the requirements of parties upon the security of REAL ESTATE, BUILDINGS, SHIPS and MERCHANDISE.

MONTHLY DEPOSITS. ONE PER CENT. PER MONTH will be allowed on all deposits made at one month's notice of withdrawal.

CURRENT ACCOUNTS. HALF PER CENT. PER MONTH will be allowed on the daily balances to credit of Current Bank Accounts—the same to be ascertained and credited monthly.

REMITTANCES FROM THE COUNTRY PROMPTLY ACKNOWLEDGED.

INTEREST on all sums commences from the day of deposit.

DEPOSITS of any amount received, from FIVE DOLLARS and upwards.

OFFICE HOURS—9:2 A.M. to 3:12 P.M. daily. SATURDAY EVENINGS from 6:12 to 9 o'clock.

THOMAS MOONEY, President. W. C. WILDER, SAMUEL CRIM, ROBERT LEWELLYN, JOHN DUNN, C. A. NIXON, A. ROSENFIELD, J. W. McCORMICK, L. R. TOWNSEND, Secretary.

16v12 3m

Eyes! Eyes! Eyes!!!

DR. HENLY, Oculist and Aurist, HAS received from Scotland one of the most successful REMEDIES for the benefit of the HUMAN EYE ever before discovered. It is unparalleled in its effects upon the diseases incident to this organ.

It gives wonderful power to the optic nerve, and removes all the granulations from the lids, and all morbid humors from the sclerotic coat without the use of instruments. In fact, it works like a charm on the Eye, without giving any pain.

You feel the effect of the medicine in different parts of the head. It drives the disease back into the system, which is better able to stand it than this tender organ.

Why will you suffer when you can be cured in a few days. Persons who have been blind for ten years have been restored to their sight in a short time by the use of this medicine. I will treat any person's eyes in the State, and if I do not give them relief in a short time I will give them a trial.

THEY ARE ALL HERE. Office, No. 751 CLAY STREET, opposite the Plaza, San Francisco. 22v12

Rheumatism!!

READ IT! READ IT!!

SACRAMENTO, April 16th 1866. H. BOWMAN—DEAR SIR: THIS IS THE FIRST WRIT- I have done in two years, and it affords me great pleasure to be able to use my pen in the service of those who are suffering, as I have suffered, by stating the following facts.

I have for two years and upwards been afflicted with CHRONIC RHEUMATISM, and until a few weeks ago I have never found anything that afforded me any relief. For three months of the time I was unable to feed myself, and for the last five months my arms have been so bent that I have not been able to dress myself. I was five months at the Warm Springs, at San Luis Obispo, and three months at a Hydropathic Institute in Stockton, where I have been under the care of six different physicians, in the vain hope of relief.

About four weeks ago I was induced by a person who had been cured by it to try a bottle of RICHARD'S REMEDY FOR RHEUMATISM, and in less than twelve hours I experienced great relief. In a few days I was enabled to straighten out my arms, and I have been getting better and gaining in strength and flesh ever since. I have now the complete use of all my limbs, and for the first time in two years, I am out of pain. I do feel for those who suffer as I have suffered, and if they will take my advice, they will lose no time in giving the REMEDY a trial.

Yours truly, GEORGE TAYLOR.

RICHARD'S REMEDY is for sale by H. BOWMAN, Druggist, Sacramento. 15v12

Price, \$2.50 per Bottle.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office. 16v12

THE DIAMOND.—Some remarkable physical characteristics with regard to the stability of color in the diamond have recently been brought to the notice of the scientific world by Mr. Fremy, of the Academy of Sciences at Paris. The particular diamond upon which that gentleman experimented, weighs about sixty grains, and, at ordinary temperature, is of a slightly yellow color. When, however, it is submitted to the action of an elevated temperature, it acquires a rose tint, which it preserves for several days, resuming gradually its normal yellow tint. The ordinary price of a diamond of this weight would be about 60,000 francs; with the rose color, if this were permanent, the value would be, at least, tripled. This peculiar change having been observed, it may be quite legitimate to ascertain if any other diamonds possess this peculiarity of change of color.

With regard to the origin of the diamond, Herr Goeppert, contrary to the usual opinion, that the diamond has been produced by the action of intense heat on carbon, asserts that it owes its origin to aqueous agency. His argument is based upon the fact that the diamond becomes black when exposed to a very high temperature. He considers that its Neptunian origin is proved by the fact that it has often on the surface impressions of grains of sand, and sometimes of crystals, showing that it has once been soft.

PUBLIC SCHOOLS IN NEW JERSEY.—New Jersey may be "slow" in some things, but she is certainly up and doing in the matter of public schools. The city of Newark, in that State, with a population of 90,000, has 43 public schools, with 11,945 registered pupils. San Francisco, with a population of 120,000, has but 33 public schools, with 9,500 pupils. Some allowance, however, must be made for the difference in the character of the population in the two cities. San Francisco is a commercial city; and containing, relatively, a less number of families. In proportion to the population, than probably any other important city in the Union; while Newark is essentially a manufacturing city, where families and their numerous children generally congregate.

TO SAVE BARKED APPLE TREES.—If your trees are barked quite around their trunks, they may yet be saved by the following process:

Cut sprouts from a thrifty tree, and connect them to the upper and lower bark, as you would insert grafts, and the trees will be sustained, by these connections, till new bark can be formed. A dozen or more of the sprouts should be used to a tree six inches in diameter. If there be a small portion of the bark left in the girdle, the tree can be easily saved, by applying a plaster of cow manure to the wound, secured by a bandage.

A BISMUTH mine has been opened in South America, two thirds up the highest peak of the Andes—the Iljamper mountain. It is 15,000 feet above the level of the sea, and just below the line of perpetual snow.

Pacific Mail Steamship Co's THROUGH LINE TO NEW YORK, Carrying the United States Mail.

LEAVE POLSON STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the 10th, 18th and 30th of each month that has 30 days.

On the 10th, 19th and 30th of each month that has 31 days.

When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departures of 15th or 19th connect with French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America.

Departure of 10th connects with English steamer for Southampton, and P. & E. Co.'s steamer for Central America.

Departure of the 30th connects with English steamer for Panama, the port of the new mines.

The following Steamships will be dispatched on dates as given below:

July 19th—GOLDEN AGE.....Capt. Wm. F. Lapidge, Connecting with NEW YORK, Capt. Bradbury.

July 30th—CONSTITUTION.....Capt. E. S. Farnsworth, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

For Merchandise and Freight apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

City College Laboratories,

South-east Cor. Stockton and Geary sts.

Practical and Analytical Chemistry and Metallurgy.

THOMAS PRICE,
Professor of Chemistry.

(Formerly of the Normal College, Swansea.)

WILL GIVE PRACTICAL INSTRUCTIONS IN QUALITATIVE AND QUANTITATIVE ANALYSIS. The course qualifies students for the application of Chemistry to METALLURGY, MANUFACTURING ARTS, and MINING PURPOSES.

PHARMACEUTICAL and TECHNICAL CHEMISTRY, such as is required by Medical and Pharmaceutical students, will be taught to such students as may require it.

Course of General Chemistry.

Evening Lectures will be delivered every Tuesday, at half-past seven o'clock, P. M., in the Philosophical Hall of the College, without extra charge to the students in the institution.

On and after the 14th of February, the Laboratories will be open every day, except Sundays, from 8 A. M. to 5 P. M. For further particulars, address

REV. P. V. VEEDER,
Principal of the City College.
Or at 456 California Street.

SAN JOSE INSTITUTE

Commercial College.

SAN JOSE,
Santa Clara County, California.

THE NINTH SESSION WILL COMMENCE ON THURSDAY, July 26th, 1886.

A new, practical and complete Business Course has been adopted, differing from that of any other School in the State. We call the especial attention of Business Men, or those wishing to give their sons a thorough, practical Business Education, to this fact, and request them to send for a Circular before deciding what School they will patronize. Ample accommodations for boarders in the Seminary. Ornamentals, Music, Ancient and Modern Languages taught.

Special arrangements have been made for boys between the ages of ten and eighteen.

For further particulars or Circular, address

FREEMAN GATES, Principal.
Or, **GEO. E. HOUGHTON, Prin. Com. Dept.**

1413rd

SACRAMENTO SEMINARY.

BOARDING SCHOOL

FOR YOUNG LADIES,

Tenth Street, between F and G.

SACRAMENTO, CAL.

Session commenced January 1, 1886.

MR. AND MRS. HERMON PERRY,

712nd

Principals.

SANTA CLARA COLLEGE, S. J.,

SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SIXTEENTH ANNUAL SESSION of this College will commence on

Monday, August 20th, 1886.

TERMS—Tuition in the Classical and Scientific Department; Boarding and Lodging; Washing and Mending of articles washed; School Stationery; Medical Attendance and Medicine; Fuel, light, baths, etc.

per session of ten months.....\$350

For further information and catalogue, apply to the President of the College, or to Rev. A. Maraschi, S. J., Ignacia College, Market Street, San Francisco.

3511-1st St. **REV. A. MARASCHI, S. J., President.**

3511-1st St.

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We have lately associated with us in the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner.

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New Mining Advertisements.

Cortez Gold and Silver Mining Company.
Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that the Annual Meeting of the Stockholders of the above-named Company, will be held on FRIDAY, the tenth day of August next, 1886, at 3 o'clock P. M., at the office of the Company, for the election of Trustees to serve the ensuing year, and for the transaction of other business.

R. N. VAN BRUNT, Secretary.
Office, No. 331 Montgomery street, San Francisco, Cal. San Francisco, July 9th, 1886. jyl4

Eagle Quartz Mining Company.—Location of Works: Amador County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh (11th) day of July, 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 10 Exchange Building (113 Montgomery street), San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the eleventh (11th) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN M. BERNETT, Secretary.
Office, No. 10 Exchange Building, San Francisco, California. jyl4

Nonpareil Gold Mining Company, Deer Flat, Tuolumne County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the ninth (9th) day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificates. No. Shares. Amount.

W B Agard 13 30 \$50.00

W B Agard 17 20 20.00

Thomas Foulkes 14 20 20.00

Thomas Foulkes 28 10 10.00

Thomas A Hughes 19 10 10.00

Thomas A Hughes 29 10 10.00

G W Beaver 45 10 10.00

And in accordance with law, and an order of the Board of Trustees, made on the ninth (9th) day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Cobb & Sinton, 407 California street, San Francisco, on the thirty-first (31st) day of July, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. A. ELDRIDGE, Secretary.
Office, Merchants' Exchange Building, corner Washington and Battery streets, San Francisco, Cal. jyl4

Mining Notices—Continued.

Antioch Premium Petroleum Company.—Location of Works: Antioch, Contra Costa County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of June, 1886, an assessment of two dollars per share was levied upon the capital stock of said Company, payable at once, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the 30th day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 20th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

BENJ. B. GOVE, Secretary.
Office, corner Pacific and Battery streets, San Francisco, Cal. jyl4

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2412

Arbitros Mining Company, Batopilas District

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 25th day of May, 1886, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 811 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the 15th day of June, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 15th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. MARTINSON, Secretary.

Office, 811 Montgomery street, San Francisco, Cal.

N. B.—Until further notice, all advertisements of this Company will appear in the Mining and Scientific Press.

Arizona Consolidated Mining Company, Eureka District, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on Tuesday, the third day of July, 1886, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, at the office of the Company, No. 611 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 30th day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 20th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

G. W. BUNNELL, Secretary.

Office, No. 611 Clay street, San Francisco.

Assurance Mining Company—Location: Occidental Lode, San Benito Mining District, County of Monterey, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 24th day of July, 1886, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, Room No. 4, 302 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the 1st day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 20th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. H. RUSSELL, Secretary.

Office, Room No. 4, 302 Montgomery street, San Francisco.

Arizona Copper Mining Company, Castle County, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Austria, H	407	17	\$6 80
Austria, H	406	10	4 00
Austria, H	409	3	1 20
Allen, R. Prest.	33	20	8 00
Allen, R. Prest.	34	20	8 00
Allen, R. Prest.	38	25	10 00
Allen, R. Prest.	41	25	10 00
Allen, R. Prest.	42	25	10 00
Allen, R. Prest.	43	25	10 00
Allen, R. Prest.	44	25	10 00
Allen, R. Prest.	46	25	10 00
Allen, R. Prest.	47	25	10 00
Allen, R. Prest.	48	25	10 00
Allen, R. Prest.	49	20	8 00
Banding, Wm, old cert.	261	12	4 80
Banding, Wm, old cert.	322	12	4 80
Banding, Wm, new cert.	182	48	18 40
Banding, Wm	372	27	10 80
Banding, Wm	373	50	20 00
Banding, Wm	435	100	40 00
Banding, Wm	623	600	240 00
Banding, Wm	624	45	18 00
Benchley, L. B.	477	00	00 00
Bensby, C. C.	160	73	29 20
Bensby, C. C.	320	27	10 80
Buckingham, A. A.	452	69	27 60
Cashiaz, J. J.	261	10	4 00
Cashiaz, J. J.	285	16	6 40
Cashiaz, J. J.	503	122	48 80
Cashiaz, J. J.	633	300	120 00
Cockburn, Jas	266	5	2 00
Cockburn, Jas	274	2	80
Cockburn, Jas	295	10	4 00
Hill, A. E. Trustee	640	238	95 20
Hill, A. E. Trustee	641	198	318 40
Kellogg, F. D.	454	81	32 40
Kellogg, F. D.	454	7	2 80
Martin, A.	582	30	12 00
Martin, A.	583	30	12 00
Martin, A.	584	20	8 00
Martin, A.	587	20	8 00
Morrison, T. H.	260	10	4 00
Morrison, T. H.	261	10	4 00
Morrison, T. H.	136	10	4 00
Staples, F. O.	129	100	40 00
Sanger, Jos F.	137	40	16 00
Shingley, A. J.	637	900	360 00
Shingley, A. J.	638	23 10-100	9 26
Tyler, E. S.	632	150	60 00
Tevis, Lloyd	462	114	45 60
Tevis, Lloyd	519	120	48 00
Wilson, J. D.	419 (hal.)	85-100	17 05
Wilson, J. D.	598	50	20 00
Wilson, J. D.	599	50	20 00
Wilson, J. D.	602	50	20 00
Wilson, J. D.	604	50	20 00
Wilson, J. D.	605	50	20 00
Wilson, J. D.	608	50	20 00
Wilson, J. D.	608	50	20 00
Wilson, J. D.	612	50	20 00
Wilson, J. D.	627	50	20 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of Messrs. Olney & Co., 418 Montgomery street, on the twenty-fourth day of July, 1886, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

SAMUEL L. C. SWEZEY, Secretary.

Office, 302 Montgomery street, San Francisco, Cal. j7

Big Blue Lead Gold and Silver Mining Company, Cave District, Tulare County, California.

Office, No. 315 Montgomery street, San Francisco.

The Annual Meeting of the Stockholders of the above named Company, will be held at their office, on MONDAY, July 19th, 1886, at 8 o'clock P. M., for the election of Trustees, to serve for the ensuing year.

M. C. ELMOORE, Secretary.

j630

Postage.—The postage on the Mining and Scientific Press to the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

Diono Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 7th day of June, 1886, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States Currency, to the Secretary, 402 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the 20th day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the 10th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

N. C. FASSETT, Secretary.

Office, 402 Front street, San Francisco.

Conala Silver Mining Company, Conala District, State of Sonora, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-sixth day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Arey, Walter W	403	50	\$50 00
Arey, Walter W	583	25	25 00
Armes & Dallam	587	29	20 00
Baylis, J. H	51	5	5 00
Baylis, J. H	52	5	5 00
Baylis, J. H	54	10	10 00
Baylis, J. H	55	10	10 00
Baylis, J. H	56	10	10 00
Baylis, J. H	57	20	20 00
Baylis, J. H	58	40	40 00
Baylis, J. H	59	50	50 00
Baylis, J. H	60	50	50 00
Baylis, J. H	61	100	100 00
Baylis, J. H	62	100	100 00
Cheney, Gardner S	494	5	5 00
Crowley, Timothy	566	11	11 00
Durney, A. F	121	103	103 00
Durney, A. F	400	131	131 00
Durney, A. F	478	12	12 00
Durney, A. F	495	40	40 00
Durney, A. F	569	30	30 00
Durney, A. F	581	100	100 00
Ellison, James	110	5	5 00
Flick, W. F	487	25	25 00
Jordan, James	25	5	5 00
Kleinhaus, T. P	563	20	20 00
Loney, Thomas	623	10	10 00
McComb, Annie R	489	5	5 00
Rice, J. M	488	5	5 00
Scholl, Michael	479	10	10 00
Scholl, Michael	480	10	10 00
Scholl, Michael	577	30	30 00
Tand, H. H	105	123	123 00
Tand, H. H	122	100	100 00
Thompson, J. D	557	103	40 00
Thompson, J. D	558	300	300 00
Thompson, J. D	552	135	135 00
Thompson, J. D	553	50	50 00
Thompson, J. D	554	25	25 00
Thompson, J. D	555	25	25 00
Thompson, J. D	624	20	20 00
Webb, Francis A	627	60	60 00

And in accordance with law, and an order of the Board of Trustees, made on the 26th day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at the auction rooms of Maurice Dore & Co., 327 Montgomery street, San Francisco, on the 17th day of July, 1886, at the hour of 12 o'clock M. of said day to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHARLES BAUM, Secretary.

Office, 510 Battery street, San Francisco, Cal. j630

Gold Hill Tunneling Gold and Silver Mining Company—Location: Cold Hill Mining District, County of Storey, State of Nevada.

Notice.—The Third Annual Meeting of the stockholders of the above named Company, will be held at their office, 415 Montgomery street, San Francisco, Cal., on SATURDAY, the twenty-first (21st) day of July, 1886, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WEGENER, Secretary.

Office, 510 Battery street, San Francisco, Cal. j630

Great Central Mining Company—Location: Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second (2d) day of July, A. D. 1886, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States of America, to the Secretary, at the office of the Company, No. 302 Montgomery street, between the hours of 4 and 5 P. M.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the twenty-seventh (27th) day of August, A. D. 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, No. 302 Montgomery street, San Francisco. j7

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.

Assessment No. 12.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 28th day of June, 1886, an assessment of one dollar and a half (\$1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, only.

Any stock upon which said assessment shall remain unpaid on the 28th day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 13th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, No. 302 Montgomery street, San Francisco. j7

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.

Assessment No. 12.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 28th day of June, 1886, an assessment of one dollar and a half (\$1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, only.

Any stock upon which said assessment shall remain unpaid on the 28th day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 13th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, 338 Montgomery street, San Francisco.

Humboldt Canal Company—Office, 716 Montgomery street, Up-stairs—San Francisco, June 19th, 1886.

Notice is hereby given, that in accordance with the By-Laws, the Annual Meeting of the Stockholders of the above-named Company, for the election of Trustees, and such other business as may be presented, will be held on THURSDAY, July 10th, 1886, at 3 o'clock P. M.

j630

W. D. ROOT.

Humboldt Canal Company—Office, 716 Montgomery street, Up-stairs—San Francisco, June 19th, 1886.

Notice is hereby given, that in accordance with the By-Laws, the Annual Meeting of the Stockholders of the above-named Company, for the election of Trustees, and such other business as may be presented, will be held on THURSDAY, July 10th, 1886, at 3 o'clock P. M.

j630

ED. CHEVASSUS.

Hansom Copper Mining Company, Low Divide District, Del Norte County, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 20th day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Glynn, Geo K	100	30 00	
Powers, C. A	40	12 00	
Small, I. H	64	10 20	
Thompson, M. A	34	1 00	
Wheeler, C. F	12 1/2	3 75	

And in accordance with law, and an order of the Board of Trustees, made on the 20th day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, 609 Market street, San Francisco, on the 16th day of July, 1886, at the hour of 11 o'clock, A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. S. SWEET, Secretary.

Office, No. 609 Market street. j630

Lady of the Lake Gold and Silver Mining Company, San Francisco District, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 18th day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm. F. Hale	92	100	\$25 00

And in accordance with law and an order of the Board of Trustees, made on the 18th day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on the 16th day of July, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. HOLLIS, Secretary.

Office, 302 Montgomery street, San Francisco, Cal. j629

Leland Gold and Silver Mining Company, San Francisco District, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 18th day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm F Hale	92	100	\$25 00

And in accordance with law, and an order of the Board of Trustees, made on the 18th day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on Monday, the 16th day of July, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. HOLLIS, Secretary.

Office, Room No. 2, 3d floor, 302 Montgomery street, San Francisco, Cal. j630

Mine Rica de las Flores Mining and Mill Company, Camp Flores, near West Point, Calaveras County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment (No. 12) levied on the eighth day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Anderson & Co., C. A.	42	5	\$ 5 00
Anderson & Co., C. A.	43	3	3 00
Anderson & Co., C. A.	44	2	2 00
Anderson & Co., C. A.	151	2	2 00
Anderson & Co., C. A.	152	2	2 00
Anderson & Co., C. A.	163	3	3 00
Anderson & Co., C. A.	162	1	1 00
Anderson & Co., C. A.	163	1	1 00
Anderson & Co., C. A.	164	1	1 00
Anderson & Co., C. A.	227	10	10 00
Anderson & Co., C. A.	228	10	10 00
Anderson & Co., C. A.	229	5	5 00
Bernhammer, H.	626	5	5 00
Diogen, L.	92	4	4 00
Dumathery, F.	665	10	10 00
Eklöf, S.	670	50	50 00
Enqvist, A.	668	83	83 00
Engqvist, P.	653	67	67 00
Gies, J.	671	5	5 00
Holscher, W.	550	22	22 00
Johnston, J. H.	610	40 1/2	40 50
Kong, C. H.	101	10	10 00
Lynch, W. A.	129	5	3 00
Marks, A. C.	154	3	3 00
Mermoud, L.	680	20	20 00
Murphy, J.	48	10	10 00
Murphy, W.	245	5	5 00
Parsons, C.	70	50	60 00
Scholl, M.	140	10	10 00
Schulte, F. W.	105	5	5 00
Schulte, F. W.	106	5	5 00
Schulte, F. W.	191	5	5 00
Schulte, F. W.	192	5	5 00
Schulte, F. W.	193	5	5 00
Schulte, F. W.	218	5	5 00
Schulte, F. W.	610	5	5 00
Steinbreng, Mrs. C.	244	5	5 00
Stock, J.	693	40	40 00
Thomson, C.	564	5	5 00
Thomson, C.	565	5	5 00
Thomson, C.	566	5	5 00
Thomson, C.	567	5	5 00
Thomson, C.	568	5	5 00
Thomson, C.	569	5	5 00
Thomson, C.	570	5	5 00
Thomson, C.	571	5	5 00
Thomson, C.	572	5	5 00
Thomson, C.	573	5	5 00
Thomson, C.	574	5	5 00
Thomson, C.	575	5	5 00
Thomson, C.	576	5	5 00
Thomson, C.	577	5	5 00
Thomson, C.	578	5	5 00
Thomson, C.	579	5	5 00
Thomson, C.	580	5	5 00
Thomson, C.	581	5	5 00
Thomson, C.	582	5	5 00
Thomson, C.	583	5	5 00
Thomson, C.	584	5	5 00
Thomson, C.	585	5	5 00
Thomson, C.	586	5	5 00
Thomson, C.	587	5	5 00
Thomson, C.	588	5	5 00
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Thomson, C.	594	5	5 00
Thomson, C.	595	5	5 00
Thomson, C.	596	5	5 00
Thomson, C.	597	5	5 00
Thomson, C.	598	5	5 00
Thomson, C.	599	5	5 00
Thomson, C.	600	5	5 00

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

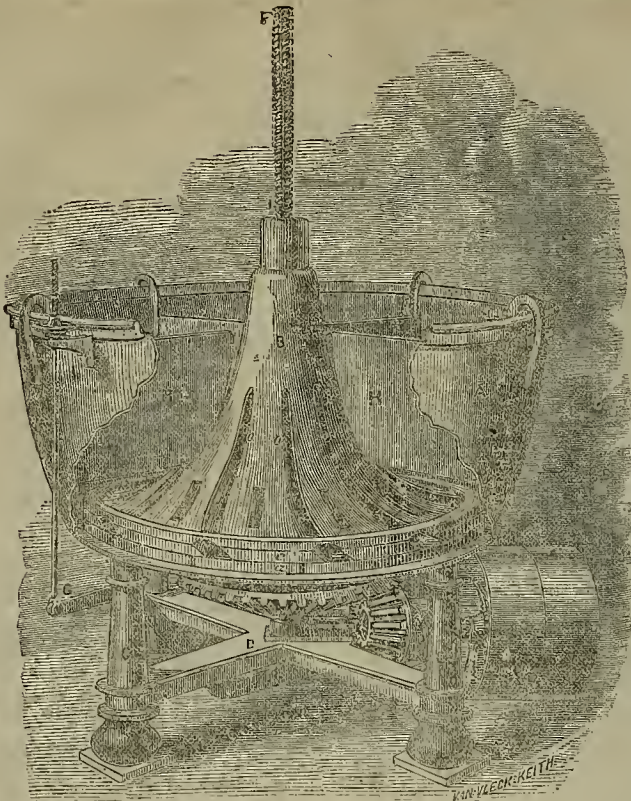
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have been constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the

PACIFIC FOUNDRY, San Francisco.

IRON!

Glasgow Iron and Metal

IMPORTING COMPANY,

Nos. 25 and 27 Fremont street, San Francisco,

Keep constantly on hand a large assortment of

Bar Iron,

Boiler Tubes,

Anvils,

Cast Steel, Etc.,

Which they offer to the trade on liberal terms. 15v12-3m

COLVIN'S American Cow Milker.



A FEW SAMPLES of this novel and useful invention have arrived by the last steamer and are now offered for sale by an agent in this city. It was illustrated and described in the MINING AND SCIENTIFIC PRESS of May 12. The actual operation of the milker has already been demonstrated in this State. The machine may be seen at this office, where further information can be gained. 2v12 June 20th, 1886.

The Hansbrow Pumps ARE WARRANTED THE BEST.

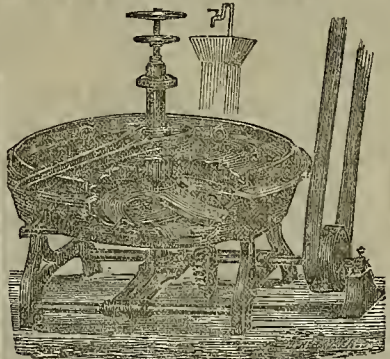
FIFTEEN KINDS AND SIZES, Adapted for FARM, Mill and Mining Purposes.

Fitted for HAND, WIND, HORSE, WATER AND STEAM POWER. For sale in every city and town on the Pacific Coast.

LOCKE & MONTAGUE, Agents, 112 and 114 Battery Street, San Francisco. Send for Illustrated Catalogue. 23v12-2m

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the Mining and Scientific Press Patent Agency. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

BAUX & GUIOD'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1884, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIOD'S Pan, are the following: The trifling cost for attendance; Its small cost; Its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping, as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the trifling power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jeffersonian Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Grail's Gravel Cement Works, Nevada county; Waltham's Chlorination Works, Nevada, Cal.; Gold Hill Quartz Mill, Washoe. Manufactured at the Valencia Iron Works and San Francisco Foundry, San Francisco, and at Hough & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address

J. B. BAUX, 4v8-6d

Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco.

Cotton-Filled Gum Belting,

3, 4, and 5-Ply,

FROM 4 TO 22-INCH, IN LIBERAL SUPPLY.

FOR SALE BY

GILLIG, MOTT & CO.,

Corner C and Taylor streets,

VIRGINIA, NEVADA,

—AND—

Nos. 148 AND 150 J STREET,

19v12 4f SACRAMENTO, CALIFORNIA.

STODDARD'S

CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER, OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by

S. B. STODDARD, Corner of Battery and Pacific streets. 25v12-3m

THE SAN FRANCISCO BOOT AND SHOE NAILING MACHINE.

THIS MACHINE MAY NOW BE SEEN IN DAILY OPERATION at the corner of Stockton and O'Farrell streets, where the inventor may be seen and consulted at all hours.

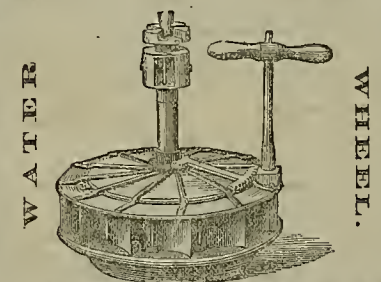
He is especially anxious that Boot and Shoemakers, Mechanics generally, and all persons interested in the success of California inventions and California manufactures, should call and examine this specimen of California ingenuity.

The proprietor is making arrangements for their manufacture in this city, and he is now ready to contract to furnish the machine to such parties as may be desirous to purchase the same.

San Francisco, June 22d, 1886.

E. T. BARLOW, 25v12

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to

KNAPP & GRANT, San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by

KNAPP & GRANT, San Francisco.

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, M. Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 19v12

BLAKE'S QUARTZ BREAKER

Is now extensively used for breaking hard masses of Quartz or Ores

To a size suitable for stamps. These machines are patented, and are in practical operation in

CALIFORNIA, WASHOE, AUSTRALIA,

ENGLAND, —AND— FRANCE,

THE ATLANTIC STATES.

These Machines, or circulars containing further information regarding them, may be obtained of the undersigned. Address,

BLAKE & TYLER,

Box 207 San Francisco Post Office. CHAS. T. BLAKE, E. TYLER, Idaho City, Michigan Bluff, W. M. P. BLAKE, San Francisco. 4v10

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention. 15v12-3m

BRUCKNER'S

Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

will soon be more fully described and illustrated in the columns of the MINING AND SCIENTIFIC PRESS.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

416 Market street, San Francisco.



FLORENCE SEWING MACHINES!

COPY OF THE REPORT OF THE COMMITTEE OF AWARDS AT THE FAIR OF THE

AMERICAN INSTITUTE,

New York, 1865,

—TO THE—

Florence Sewing Machine Company,

FOR THE BEST FAMILY SEWING MACHINE.

HIGHEST PREMIUM—GOLD MEDAL!

REASONS:

- 1st.—Its simplicity and great range of work.
- 2d.—The Reversible Feed Motion.
- 3d.—The perfect finish and substantial manner in which the machine is made.
- 4th.—The rapidity of its working and the quality of the work done.
- 5th.—The Self-adjusting Tension.

The "FLORENCE" was awarded the First and Highest Premium at the State Fair of California, the only Fair on the Pacific Coast at which any two double-thread Sewing Machines were exhibited in competition in 1865.

The "FLORENCE" received the only premium awarded by the Mechanics' Institute of San Francisco, in 1864 and 1865, to any Sewing Machine, Sewing Machine Company, or Agent. The claim of a competitor to a medal is without any foundation whatever.

Wherever the "FLORENCE" has been brought in competition with other Sewing Machines, it has always been declared the best. It is the most simple, the most substantial, the most efficient, and its use is easily learned. Every Machine sold is guaranteed in the full sense of the word.

Send for Circulars and Samples of Work.

SAMUEL HILL, General Agent, 20v12-14w 111 Montgomery street, San Francisco.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by

THOMAS H. SELBY & CO., Nos. 116 and 118 California street

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, on Front street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12-3m

UNDYING PLANTS.—A letter from Guaymas, Sonora, Mexico, says: "Passing on beyond Aricheh about two miles south, we struck the bed of a stream through which we commenced our progress to another range of mountains whose slopes came down to the very edge of the channel-way. It was here that we found the north sides of rocks which face the stream covered with what at first seemed to be the most exquisitely beautiful green mosses that ever decked the rugged sides of a mountain. The entire sides of the mountain at this spot were blooming in the liveliest green. We dismounted to pluck some of these plants, and found they were not strictly mosses, though undoubtedly they belong to that class of plants. Each one had separate roots firmly holding it to the rocks, and from these roots grew out a plant that opened to the diameter of a common teacup or a saucer, and spread itself that on the face of the rock. The leaf somewhat resembles in texture the *arbor vite*. These plants bear the name of '*siempre viva*'—always living, or always alive. Their peculiarity is to come out into beautiful green life in the rainy season; and then, when all moisture has deserted them, to turn as brown as autumn leaves, and roll or curl themselves up like a ball, as uninteresting to see as a brown stone, seemingly dead. But with the return of moisture, they uncurl their leaves and spread out again as beautiful and green as ever. Another peculiarity of the plant is that you may pluck it, throw it into your saddle-bags, and keep it six months; and then place the roots in a cup or saucer of water when you retire for the night, and, in the morning, you will find by your side a lively green plant. It looks like magic. But I have tried it to my surprise and delight. The plant never dies; its life is immortal, and its beauty of texture and form and color is renewed or continues with the continued supply of moisture."

GLASS.—The first attempt to manufacture glass in America, was made at Jamestown, Virginia, and was interrupted by the Indian massacre, in 1622. The first successful factory was erected in the town of Temple, N. H., in 1780, by Mr. Robert Hewes, of Boston, Mass. The works were destroyed by fire in the winter of 1780-81, through the carelessness of a drunken furnace-man. In 1800, an unsuccessful attempt was made to manufacture glass in Boston. In 1803, a German named Lint took charge of the Boston works. He succeeded well, being encouraged by the State; and since then this branch of industry has been largely engaged in throughout the country.

A PENNYWEIGHT.—"Twenty-four grains make one pennyweight," says the Troy weight table. This was the weight of the silver penny of the reign of Edward I., and it has ever since remained one of the units of weight for precious metals.

J. B. COX, BUSINESS AGENCY.—Makes private sales of Property and Business Places of every description, in the city and throughout the State; procures partners with large and small amounts of money; negotiates sales of mining property, and does a General Agency Business. Patronage solicited by mail, express, or by personal application at the office, 402 Montgomery Street, San Francisco, California. 23-1111

WE ARE NOW OFFERING OUR IMMENSE STOCK
—OF—
Fine Custom Made Clothing

Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of
ALL THE LATEST STYLES
BOTH OF MATERIAL AND FINISH.

A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,
8-10 Cor. of Washington and Sansome streets.

WM. H. KEITH & CO.,
Chemists and Apothecaries,
PROPRIETORS AND MANUFACTURERS OF

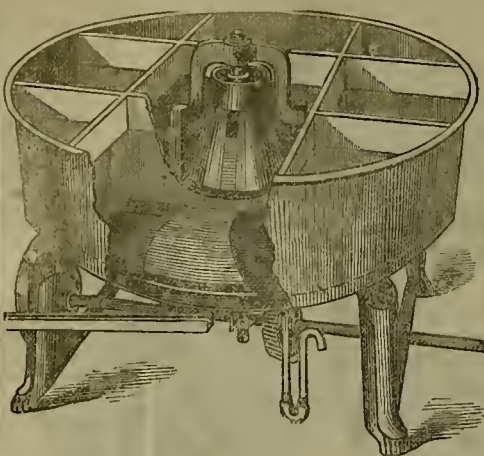
WM. H. KEITH & CO'S WINE OF PEPINE, OR REN-
net Wine, a new and efficacious remedy for Dyspepsia, Gastric Disorders, &c. WM. H. KEITH & CO. have a new and valuable compound of Cod Liver Oil, put up in glass jars. WM. H. KEITH & CO'S LEMON APERIENT, or Purgative Lemonade, an agreeable, cooling and active purgative, or mild laxative, as required. WM. H. KEITH & CO'S SAPONACEOUS TOOTH POWDER. DEVINE'S PITCH LOZENGES, for the cure of coughs and colds. WM. H. Keith & Co's Eucalypti Tooth Wash. WM. H. Keith & Co's Granula Effervescent Citrate of Magnesia. WM. H. Keith & Co's Rosemary and Castor Oil Hair Invigorator.

WM. H. Keith & Co., being in frequent communication with Eastern and European markets, are continually receiving their stock of Pure Drugs, Rare Chemicals, Fancy Goods, and Toilet Articles, Pure Oils, &c. They also give special attention to replenishing ship medicine chests. Also, just received, a large and well-selected invoice of **BERNSTEIN'S CELEBRATED MEDICINE**, consisting in part of Anodyne and Obsolete cases, &c. Physicians and others at a distance ordering goods from us, can depend upon having their orders filled with the same regard to quantity and price, as though obtained in person, and we give particular attention to packing and forwarding the same.

WM. H. KEITH & CO.,
Apothecaries' Hall, No. 521 Montgomery street,
15-121/2 Between Clay and Commercial, San Francisco.

Knox's Improved Patent Amalgamator and Separator,

With Palmer's Patent Steam Chamber or Die.



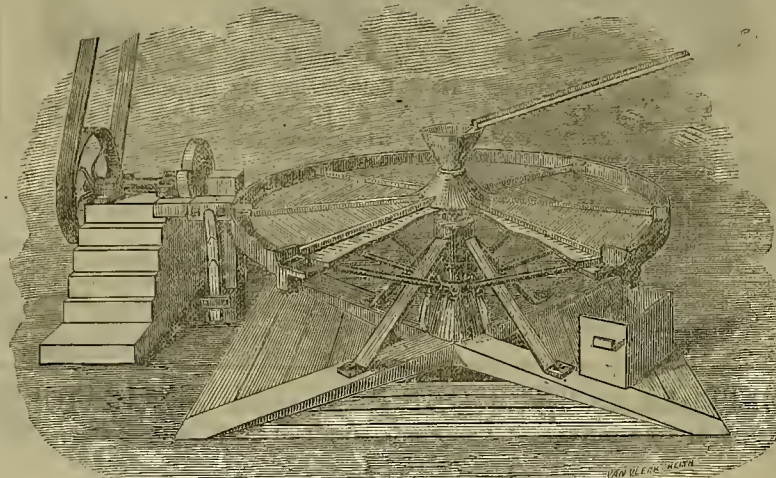
For further particulars, inquire of

14-13-12 1/2

At the Golden State Iron Works, No. 19 First street, San Francisco.

ISRAEL W. KNOX, or
W. A. PALMER, Inventors,

VARNEY'S CONCENTRATOR,



With a disk 4 1-2 feet in diameter—total weight of Machine 350 pounds.

Is driven by one-eighth of a horse-power, and will concentrate eight tons of ore per day, and make the sulphur clean. Larger ones do work in proportion to size.

IT CAN BE SEEN IN OPERATION AT THE PACIFIC IRON WORKS, SAN FRANCISCO. 22-12-3m



REMINGTON'S ARMY AND NAVY REVOLVER,

THE REMINGTON REVOLVER

Has been approved by the United States Board of Ordnance, and has so satisfactorily met the requirements of the Government, not only in the field, but in the official tests and examinations made by prominent officers of the Ordnance Department, that it stands at once the most popular, serviceable and approved arm of the kind in use. Upwards of 125,000 have been supplied to the Government within the past four years, for the land and naval service, furnishing ample evidence of the estimation in which the arms are held.

Simple and symmetrical in its entire construction, securely strong, of most modern improvement in mechanism and material; its unequalled range and penetration, together with its durability, are points in its favor now well known, and which challenge a comparison with any other pistol of the kind made in this country or in Europe.

The superior strength and capacity of the arm for constant and long use is apparent from the fact that the entire frame is constructed of a single piece of metal, thus preventing the extension of some portions of the frame, from the effect of firing—a serious defect in many pistols—in which the frame is composed of two or more parts.

The frame of the Remington Revolver furnishes a rest for the barrel or support above the cylinder, to protect the base pin (on which the cylinder revolves) from any undue strain to which it would otherwise be subjected, and which would immediately render the fire from the cylinder to the barrel imperfect, thus destroying force and accuracy.

Another advantageous feature of the arm is the means afforded for the instantaneous removal of the cylinder from the frame. This not only facilitates the cleaning of the pistol, but by the quick adjustment of the cylinder, one pistol can be made as effective as two—and, considering the difference of weight, it is far preferable—by simply possessing a spare cylinder loaded and capped to instantly replace the exhausted one.

The above is a general summary of the points of peculiar merit in the Remington Revolver which a trial of the arm is only needed to attest. For sale at Manufacturers' rates, by

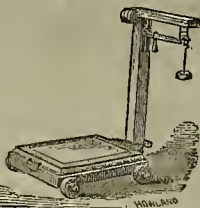
ALBERT E. CRANE, Manufacturers' Agent,
310 Washington Street, up stairs.

Steam Pumps,
FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.
PICKERING'S GOVERNORS
For Steam Engines.
Gifford's Injectors,
For Feeding Boilers.
STODDART'S IRON WORKS,
114 Beale Street, San Francisco.
20-12-3m

**TRY IT—50 PER CENT
SAVED BY USING**
**STANDARD SOAP COMPANY'S
WASHING POWDER.**

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleaning. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for use in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1-lb each, and in wooden boxes of 10-lb bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15-12 1/2

FAIRBANK'S
HAY,
COAL,
CATTLE,
MINERS', AND
GROCERS'
Scales.



We would call the attention of Miners to our scales for weighing LOADED WAGONS, of from 10,000 to 20,000 lbs capacity. Manufacturers' Branch House. FAIRBANK & HUTCHINSON, 334 Montgomery street. 19-12-3m

Steam Engines for Sale Low.

DERIVED FROM EAGLE WORKS, NEW YORK. Embracing all made in the most suitable for Mining, Milling, or other purposes. Will be sold at Manufacturers' rates and charges.

Apply to
A. E. CRANE,
310 Washington Street, up stairs.

ENGRAVED TO ORDER.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices.

DEWEY & CO.,
Patent Agents, Publishers and Job Printers, 605 Clay st

Portable Steam Engines!

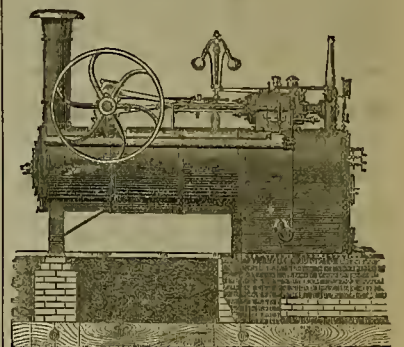
"Hoadley's" and "Hittinger's" Make,



HOADLEY'S.

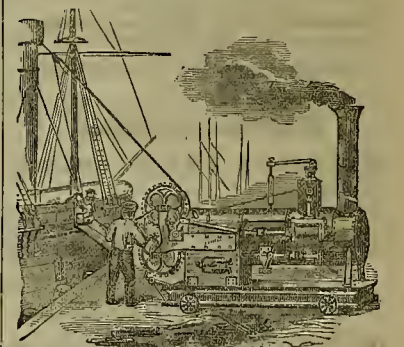
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

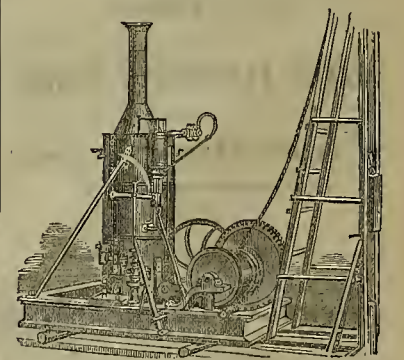
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price.

These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes. Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises,) in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost confines of civilization the saw and grist-mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.

All sizes on hand from 3 to 30 horse power, with and without carriages.

Also, Portable Saw and Grist Mills.

For sale by
THE ADWELL & CO.,
Corner of Front and Market streets
15-12

STRIKES IN NEW YORK.—A New York correspondent of the Boston Voice gives the following summary of the strikes that have occurred in New York recently, with their results:

Successful Strikes.....	7
Partly successful.....	8
Unsuccessful.....	21
Unsettled.....	4
Total number of strikes.....	40

OVERLAND TO ARIZONA.—An overland expedition to Arizona and the Gila River is being organized in St. Louis, Mo., and will soon take up its line of march. A preparatory camp is being formed at Topeka, Kansas. The company will contract to take persons through to the mines at sums much below the cost that must be incurred by small parties.

BORAX.—The California Borax Company, at Clear Lake, are taking out this useful substance at the rate of fifteen tons a day. Chinese labor is mostly used.

Change in Prices.

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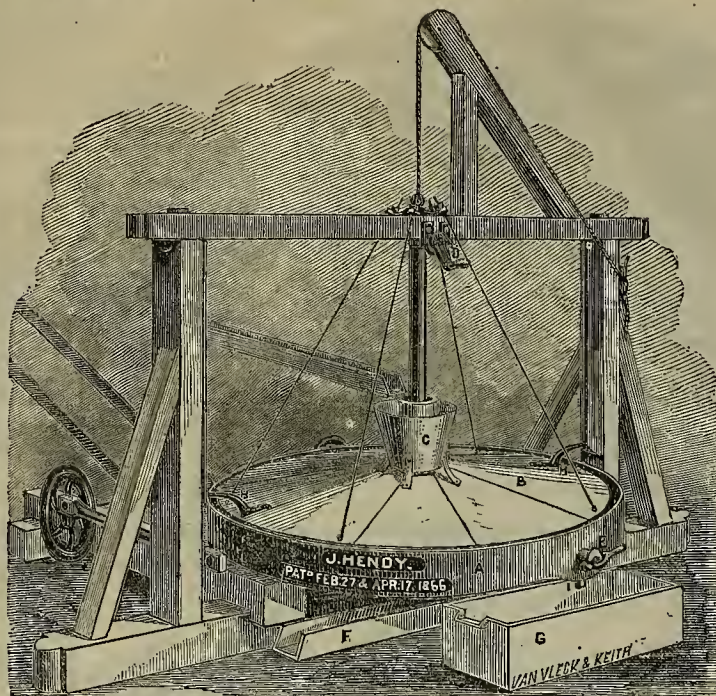
JOHN P. OALLAHER,
JOSEPH H. WEED.

22v12-3m16p

ONE HUNDRED DOLLARS REWARD!

The above Reward will be paid to any one who will produce evidence of a failure of any of HENDY'S IMPROVED SELF-DISCHARGING CONCENTRATORS, Patented February 27th, and April 17th, 1866—which said amount is deposited for 60 days with Palmer, Knox & Co., No. 19 First street, San Francisco. Send for a circular containing a description of the machine. June 23d, 1866.

J. HENDY, Patentee, No. 412 Montgomery St., Room 3, 4th Floor, S. F.



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SPRING HILL MILL, Amador, Amador County.
GOLDEN GATE MILL, Volcano, Amador County.
RAWHIDE MILL, Jamestown, Tuolumne County.
TRIUNFO G. & S. M. CO., Lower California, Mexico.

And in use in other parts of this State; also in Idaho, Arizona, Colorado and Mexico. As a further evidence of its worth, orders have been received recently from the proprietors of the following mills, all of whom are using these Concentrators, or have works in the immediate neighborhood of mills using them, viz.: One Concentrator for the Ophir G. & S. M. Co., near Newcastle, Placer County, ordered by Wells & Foster, who are using two Concentrators; one Concentrator for the Benton Mill, Mariposa County, ordered by Messrs. Dodge & Bro., of this city, who are using seven of them in the same mill; one Concentrator, ordered by Messrs. Biscow & Bro., of this city, for the Cony Mill, Jackson, Amador County, where they have already three of them in operation. They may be seen in operation at the GOLDEN STATE FOUNDRY, No. 19 First Street, San Francisco.

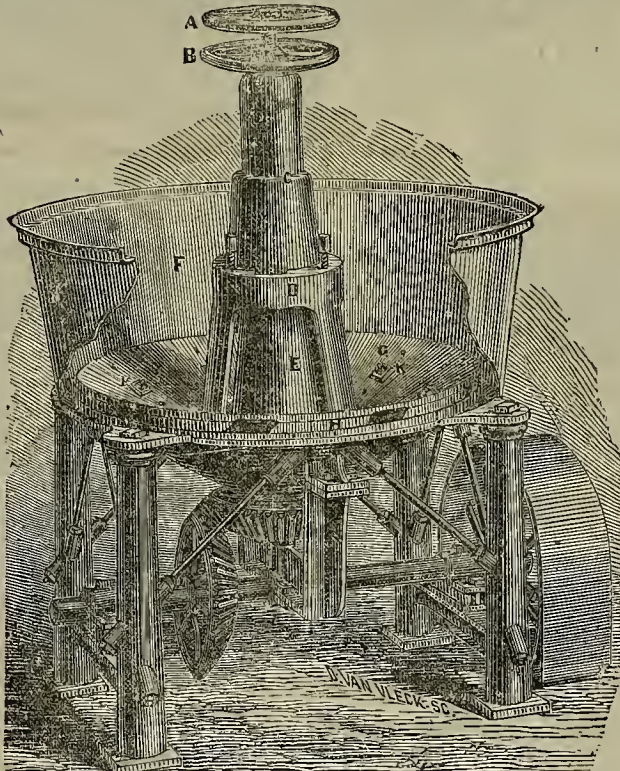
For explanation of the above engraving, and other particulars, send for a Circular.

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Add the towns and cities in their vicinity.

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It is designed to fix for the future the discovery and early history of the mines, to sketch their progress and present condition, to give such statistics as are attainable with regard to their production, actual and possible; in fine, to disseminate throughout the East and in Europe accurate information respecting them. To relieve the tedium of such a work, interesting incidents illustrating the early manners and customs of the pioneers, and the gradual organizing into its present consistence of the first, and always to be the eminently Rocky Mountain State, will be given.

It is also designed to contain a complete Directory of the towns of Central, Black Hawk, Nevada, Golden City, Idaho, Empire, Georgetown, Gold Dirt, and South Boulder; views of each of those places; separate views of the principal buildings, public and private; also views of mills and mines and of mountain scenery.

There will also be attached a Business Department, in which a limited number of advertisements will be inserted.

O. J. Hollister, of the Black Hawk Mining Journal, has been engaged to compile the body of the work—the historical and descriptive narrative. Having been here uninterruptedly for the past six years, and mingled freely in perhaps every walk of life, he trusts he will be able to do the subject ample justice.

All old residents of this region who are familiar with the discovery and early history of the mines, or with interesting incidents of that indefinite time known as the "early day," will confer a favor on the subscriber by furnishing such information to O. J. Hollister, Journal office, Black Hawk, Colorado.

The work will be issued sometime during the month of August. Price \$2, bound in paper; in muslin, \$2.50.

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G. M. BUCKLEY.

May 10th, 1866.

Central City, C. T.

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SAN FRANCISCO, SATURDAY, JULY 21, 1866.

VOLUME XIII.
Number 3.

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MOTT'S DOUBLE-REVERSIBLE PLOW.

We herewith present our readers with an illustration of a side-hill or double reversible plow, invented by Mr. John Mott, of Danville, Contra Costa county, which, we think, is destined to take place in the front rank of California inventions, and one which is designed to supersede the old side-hill or swivel plow.

Referring to the engraving, A is a beam of wood of considerable depth, through which passes the horizontal shaft, b, extending back near the ends of the handles; by this means great strength is attained.

The plows, B, B, are of double construction, placed one above the other, and held together by double braces, standards and forked rods. In the middle of the back standards

PRESS PATENT AGENCY, and the third is pending. Further information can be obtained by addressing the inventor, John Mott, Danville, Contra Costa county, California.

AN EASTERN GOLD SWINDLE. — It appears that the reported discovery of gold in some borings taken from a well which was being sunk for oil, in Greene county, Penn., was a most unmitigated swindle. A company was formed on the strength of the reported discovery, stock sold, etc. The *Pittsburg Chronicle*, says that a party who was induced to buy some of this worthless stock, has entered a complaint against the person of whom he bought, and who was one of the getters-up of the swindling concern, for obtaining money under false pretences. The offending party, after a preliminary examination, has been bound over

PULVERIZED TURPENTINE AS FUEL. — This *American Journal of Mining* says: "Among the latest adaptations of heat-procuring substances to the furtherance of industrial art, is that of 'pulverized turpentine.' Captain Shpacovski, Professor at the Paul Military School, St. Petersburg, recently exhibited experiments upon this subject at the old Admiralty. By an apparatus which he called a pulverizer, he caused every particle of the fluid to burn. The flame from his apparatus was enormous, reaching two feet in height and rushing through the burner with a noise similar to that of steam escaping from a pipe. The temperature is equal to that of molten steel—1,040 deg. Reaumur. After melting wire, copper, etc., and showing how it was adapted to carbonizing wood for ship-building to the depth of only 1-120th of an inch, he proceeded to describe his steamboats. The model experimented with—twenty-four feet in length—was propelled at the rate of six knots per hour, by an engine of two-horse power, heated by four pulverizers, consuming three pounds of turpentine per horse-power per hour. He expects to reduce this consumption to one and a half or two pounds per horse-power, and has orders for twenty similar boats to be used for passing traffic on the canals. The new fuel is more expensive than coal, but Captain Shpacovski claims that this will be more than compensated for by the smallness of the quantity used. Steam can be got up with it in ten minutes, and the fire can be extinguished immediately when not required."

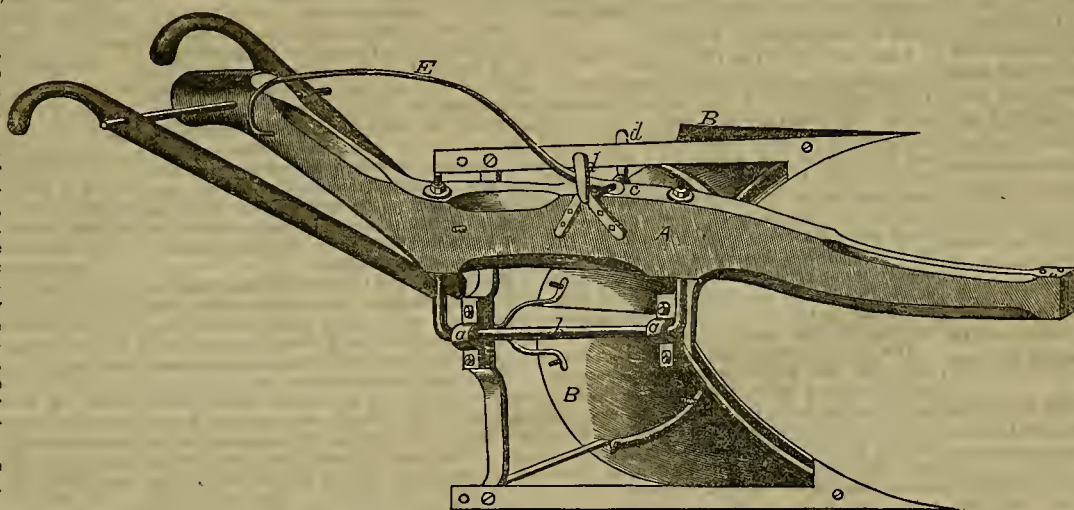
"Pulverizing" is a term employed for the very fine separation of fluids, as through a rosette of extreme fineness. This method is employed in France, instead of vaporizing, for medical purposes. Its adaptability in rendering available liquid fuel, must be

apparent to every one. It is in this manner, if at all, petroleum will eventually come into use as fuel for the purpose of making steam. In this view the above described experiment of Professor Shpacovski, is very interesting.

DEATH OF AN ENGINEER.—William Petherick, a well known civil and mining engineer, died at the Cosmopolitan Hotel on Saturday evening last, of erysipelas. Mr. Petherick came to this State in the interest of some English capitalists, and his word would sell, in London, Liverpool, or Boston, any mine which he would endorse. His integrity was proverbial. California has met with a great loss in Mr. Petherick's death.

MECHANICS' INSTITUTE.—The reading and chess room of the Mechanics' Institute will be removed on Monday next, from the building on California street, to the temporary quarters selected on Market street, which will be used until the completion of the building in the course of erection by the Association. The library will not be removed until one week from Monday.

EMPLOYMENT WANTED.—The California Volunteer Union solicits employment for discharged soldiers. Their office is 625 Merchant street San Francisco.



are placed slots, to raise and lower the heel of the plow by loosening the bolts.

Adjustable washers are also placed under the ends of the braces and standards, as well as under the two boxes, a, a, to change to or from the ground. Both plows turn from right to left and left to right, on the horizontal axis, b, and the one not in use is kept in place, bottom up, by means of the hooks, d, d, attached to the sweep, E, passing through side-irons; and when the end of the furrow is reached, this sweep is raised, which lets the upper plow down where its point touches the soil, and the team on turning carries up the plow that has just been employed to the beam, where it is locked, and the lower one is ready for service.

The inventor of this implement justly claims that by its use the side-hill can be cultivated as well as the plain, as all of the furrows can be turned down hill; and where it is desirable to carry elevated ground to low or wet places, which are always unfit for seeding at certain seasons of the year, by this system of plowing, such places may gradually become elevated, and thus productive. In places where no dead furrows are wanted, as in plowing gardens or small patches of land, this plow is found more serviceable than any other.

Two patents for this plow have already been taken out, through the MINING AND SCIENTIFIC

to answer in this case. It is to be regretted that every operation of the kind cannot be thus promptly followed up, and their authors punished, as they should be, as swindlers. If such a course should be pursued, legitimate mining would be greatly benefited.

CONCENTRATOR ILLUSTRATION.—To such of our readers as are not familiar with the working principles of Hendy's self-discharging concentrator, we would call attention to a new engraving on the last page of this paper, representing a sectional view of the machine. A description of its structure and operation is also given. The Jersey Blue company, near Folsom, have ordered two of these concentrators through Palmer, Knox & Co. of the Golden State Foundry. Two more were also ordered this week through Messrs. H. J. Booth & Co., of the Union Foundry, for the People's Company in Alleghany, Sierra county. These are probably the first machines of the style purchased for Sierra. We are glad to see this disposition on the part of miners to improve their works.

INCREASED attention is being paid by our miners to the saving and treatment of the metallic sounds and sulphurets found in hydraulic and cement diggings. We shall have more to say of this hereafter.

A VALUABLE MINE.—A letter has just been shown us by A. S. Snyder, Esq., giving the result of a recent assay of nickel ore. The actual assay is nickel and cobalt, 6.45; iron, 23.50; sulphur, 20.00; arsenic, 15.05; gangue rock, 25.00; waste in experiments, 10.15; gold and silver, about \$3 per ton. It is probably the finest sample of nickel ore ever sent to this city. Each unit, or per cent. of nickel and cobalt, is worth about \$14, (or \$90 per ton). The two metals are rarely ever found separated; they combine in variable proportions, and generally with arsenic. The mine is situated above Dutch Flat, on the Pacific Railroad, and will pay a handsome per cent., if properly managed. It is owned, we understand, by Messrs. Gaskell & Co., whose name is a sufficient guarantee that the mine will not lack energy or means in developing its resources.

We clip the above from the *Daily Tribune*. In the mountains of Norway, where labor, coal, water, etc., are at the cheapest cost, it is found that nickel ores containing 6 per cent. of nickel and cobalt will barely pay the expenses of working. It is barely possible that the combination of the two minerals in the ore, as found near Dutch Flat, may be such as to render it possible that they may be worked at less cost than is usually involved in the working of that class of ores; although we can scarcely conceive any conditions under which cobalt and nickel ore of the grade named, could be worth over \$30 in this city, whither it will probably have to be shipped either for working or shipment.

NEWSPAPER IMPROVEMENTS.—The *Oakland News*, heretofore a weekly sheet, now comes to us as a daily. This improvement speaks well for the growth of our neighboring city, and for the enterprise of our worthy cotemporary.

The *Evangel*.—This organ of the Baptist interest on this coast, which has recently been greatly enlarged and improved in appearance, has now changed its issue from a semi-monthly to a weekly sheet.

THE DAILY TIMES, a new morning paper, said to be substantially backed by prominent men of this city and State, will soon make its appearance in San Francisco.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Mining in Reese River.

BY OUR AUSTIN CORRESPONDENT.

EDITORS PRESS:—At last our country, as a mineral region, is beginning to prove itself all, if not better than ever represented, though it has been up-hill work to effect the desired end. Much is yet to be done, however, before there is a thorough system of mining adopted, and everything will move along smoothly. There is much to be learned, and large sums of money will be squandered in experimenting.

This is a progressive age, new inventions are daily being brought before the people, some of which are practicable, while others are not; and inexperienced men are the first to adopt new inventions, they not knowing the value or practicability of them; for instance, the much talked-of "Gardiner's or Humboldt crusher," the unsurpassed good qualities of which were heralded by almost every journal in the land, with the exception of the PRESS, which, I believe, "did not see it." One of those machines was erected and tried here, but would not work up to expectations. It was not complete, the owners believing it would work to a charm if it had stamps and other fixings attached to it; in short, it would not answer the purpose, therefore the agents suspended operations until means could be collected wherewith to purchase some other new patent. People in the East were so infatuated with this machine, that a Philadelphia company shipped one of them for this place across the plains, and also a full complement of mill machinery, doing so at the instigation of one as inexperienced as themselves. After much tribulation, and, as the agent says, "bridging the whole line of road from the Missouri river," they eventually landed a portion of the cargo at Salt Lake City. Had the cargo all been delivered here, the company's books would have shown a cost of one dollar per pound freight on the same. Another monster machine must be hauled here to be voted by the owners as worthless—"Howland's Rotary Roaster." It was tried in one of our largest mills and found wanting. One of our leading speculators purchased one of them, but through accident did not ship it immediately; afterwards, having seen a test made of one of them, he rescinded the order, much to his relief and repute as a practical mill and mining engineer.

I do not mean to infer that new inventions are not sometimes worth trying, but that in many cases, by lack of judgment in their utility, much valuable time is lost, thereby tiring the patience of stockholders, who are daily and hourly becoming more anxious that results shall be shown in their enterprises. Being as far removed from manufactories as we are, it is not practicable to experiment to such an extent here as some do. Much time is consumed in forwarding machinery, and freights foot up largely. For the present, at least, no machinery should be ordered except that known to be applicable. But with all drawbacks we are working out our certain success. The production of bullion is increasing daily. Last month's shipment is surprisingly large to us, and will set those to thinking who have formed a poor opinion of our mines. The total shipments of bullion for the month of June was \$101,516.26—Wells, Fargo & Co. having forwarded \$66,957.50, and the National Bank \$34,558.76, in addition to which Dr. Goodfellow shipped on the first and third of the present month nine bars, extracted from one week's run of ore from the Great Eastern mine. The bars were shipped through Messrs. Wells, Fargo & Co., and were valued at \$10,417.46. The ore from which it was taken averages \$200 per ton. The Great Eastern Company are still furnishing good quantities of ore, which is being reduced at the Keystone mill, under the supervision of Capt. A. L. Page, the lessee of the mill, who is making every one feel glad by producing 600 pounds of crude bullion daily from the Great Eastern ore alone.

In my last letter I spoke of the probable yield of ore from the Yankee Blade mine then in course of reduction at the Midas mill, having only judged of its value from appearances of the ore in bulk. I underrated the working of it (something very unusual for this country), and therefore take pleasure in acknowledging the error, and setting your readers aright. I will so do by inserting a notice made at the time in the local columns of the Reese River *Reveille*, which notice bears me out in my former expressions of approval of the management of said company's works:

"HANDSOME WORK.—The Midas mill, of the New York and Reese River company, well sustains its reputation. The amount of bullion produced from June 1st to the 24th inclusive, was \$35,253.57. Of this sum \$23,918.42 was obtained from 70½ tons of ore from the Yankee Blade mine, belonging to the company, the ore averaging \$339.26 per ton, and the bullion being of the extraordinary fineness of 994. This unequalled result in this region is highly creditable to the thorough management of Mr. W. P. Richard, the intelligent general agent of the company."

Who can say that our mines cannot be made to yield? Veins on which depth has been attained are yielding well. It is true it costs more to work small veins than those of greater width and lesser depth, still the yield per ton is greater, making up the discrepancy.

There is much being done on mines having proved themselves good, in the way of sinking new shafts and erecting new machinery, consequent upon the "Cheap John" system of working adopted by the inexperienced; but it is to be hoped that agents will learn in time, that mining, if worth doing at all, is worth doing well and substantially. A desire can be daily seen on the part of capitalists to better their condition through practical working, acknowledging that it is the only sure way to success, although there are many who overestimate their own ability in occupying positions of superintendents of mines.

I can now say of the Philadelphia district, that it has proven itself all that was represented. Heavy purchases are being made of interests there. The ledges are large, and as far as can be learned from the developments so far made, are well defined and permanent. The High Bridge and El Dorado mines or ledges, if all is true, must eclipse the famous Constock. Certain it is that the out-crops of these mines are large, and will average over \$100 per ton. We all look at this discovery as an event in the history of our country, and think that further developments will replace the confidence heretofore had in the country, but which has been doubtful for some months back.

The fact of much "wild cat" having been sold in the East has given capitalists cause for being wary, and although there are millions of feet of mines in the East on sale and undeveloped, it would be better for the country if none of them are disposed of on the representations made by the sellers. The picture is overdrawn, painted and touched up to such an extent, that it is an utter impossibility that mines can work up to such statements. Consequently purchasers are disappointed, and therefore judge all our mines by one. There are plenty of opportunities to purchase here, and to see what is being purchased; also to see the requirements of the mine in machinery, etc., thereby guarding against the misapplication of money in useless machinery.

It is a fact worthy of note that all who come here for the purpose of examining the mines are pleased with them, and to a man become interested in them. All are of the opinion that the mines will yield largely if properly worked. If that is our only detriment to success, why is it that men will not use some judgment in working, and try to learn that right way? Capitalists find fault that their mines are not productive. They alone are to blame. They will see their error in time, but at the present many of them could not be made to believe they could be wrong.

Agents are employed to further work and make money for their employees, which no doubt they try to do, but in their efforts to make money the idea that a "dollar saved is a dollar earned" never occurs to them. They are virtually sent here with the intention of saving money as well as to make it, which they invariably get wrong end first, through ignorance in their positions as superintendents.

Austin, July 7th, 1866. PROGRESS.

The total amount of gold and silver ore extracted from the earth up to the present time, as far as can be ascertained, amounts to about \$22,000,000,000 of which only about one-fourth at present remains in existence.

[Written for the Mining and Scientific Press.]

Letter from Copperopolis.

EDITORS PRESS:—On my return to this place, after an absence of two and a half years, I could not resist the temptation of visiting my old stamping-ground, the Keystone mine. I have ever felt an earnest wish for its success, and also for the success of the gentlemanly stockholders, some of whom are my personal friends. My connection with the mine cost myself and brother a considerable sum of money. But I have no ill-will towards the mine owners; on the contrary, I would take great pleasure in seeing it become one of the best paying mines in the country. On my arrival I called upon the gentlemanly superintendent, who politely showed me the work and improvements above ground, but as positively declined putting me below to see the mine. During my thirty years' experience in mining, in the positions of engineer, superintendent and owner, I have always looked upon the mine below ground as the real point of interest, and I have cared not to see lofty edifices adorned with gilt and paint, or polished machinery, where appearances have been made subservient to utility, placed over unprospected, and consequently, unproductive mines.

Where is the ship-owner who would think of putting gilded top-hamper upon a rotten hulk, and freight her with costly cargo, expecting a prosperous voyage? Where is the merchant who would spend his capital in painted paneling, and commence business with empty shelves? Why, then, do merchants, when they become miners, waste their substance upon useless show above ground, when their money is needed to sink, drift and explore the mine? When the mine is paying more dividends than the stockholders know what to do with, then it may be fitting and time enough to spend their surplus in adornment.

There is immense mineral wealth here and in this vicinity, but it requires capital to bring it to light, and that capital or the greater part of it should be spent under ground and not above. I was surprised in not seeing more ore raised from the Union mine. As there is a reason for all things, there must, therefore, be a reason for this also. The Union company has been sued by a party who own a side claim, and who lay claim to the Union lode also. Sam Smith of to-day may be John Jones of to-morrow, but that will be no evidence that this mineral may not exist in equal abundance in the possession of either.

The Empire and Calaveras claims, undoubtedly, will some day be good paying mines; but not until the stockholders realize the fact that experienced miners only should be employed to superintend, and that inexperienced owners in their counting-rooms should not dictate too much to those who have made mining their business for life. Shafts may be sunk, but if they are not put down in the right place all is lost. There are also some good mines outside of this immediate vicinity that are worthy the attention of capitalists. I have visited the Napoleon mine, and shall always say that it is a mine, if the right man is found to superintend the sinking of shafts, drifting, etc.

R. POWING, Min. Eng.
Copperopolis, June 21, 1866.

[Written for the Mining and Scientific Press.]

From the Humboldt Oil District.

MESSERS. EDITORS:—I was delighted to find at the Post Office last Thursday, on the arrival of our weekly mail, a copy of your valuable paper of the 16th ult., and as a slight indorsement to continue the favor, I have decided to inform you of the condition of affairs in this vicinity, more particularly as regards a branch of mining of which I read but little in the copy before me.

That petroleum exists in this section one cannot doubt, without discrediting his own senses. Even on the surface the oil can be seen oozing from the rocks, and I have, by simply making use of a woollen rag, collected from three to five gallons in the course of a few hours, within ten miles of this camp.

Nothing would seem to be required for the full development of a paying well but the proper expenditure of capital—by the employment of intelligent labor, and working superintendents. That such has not been done, is evident from the numerous abandoned derricks and wells in this vicinity.

Among the number of oil wells now being worked are the following: The Erwin Davis, down over one thousand feet, with but little, if

any, encouraging prospects. The Jeffrey, down 600 feet, with good indications, constantly improving as they descend. The Union is down 210 feet, but is during this week not being worked, to enable the boys to celebrate the "glorious Fourth," after which they purpose continuing the work.

The North Fork company are down 276 feet, and are now piping, having down 222 feet of pipe in the shaft. The prospects of this well are flattering; oil in small quantities is taken out daily by pumping.

The other wells in this vicinity are either abandoned, under attachment, or work suspended—the Allen & Satter, and Tilden and Fowler being of the latter number, and when they will resume labor is a question not to be answered at present. It is evident that stockholders are tired of paying assessments, while those laboring on the works are dissatisfied with not receiving the just remuneration for their labor. But better times are hoped for by

DEX.
North Fork of the Mattole, Cal., July 21, 1866

Oil Prospecting Extraordinary.

It was announced, last spring, that oil had been struck within the limits of the city of New York, and not far from the First Avenue. No sooner was this announcement made, than a party of speculators forthwith commenced boring within the city of Philadelphia, at a point near the junction of the Wissiniekon and Schuylkill. Two wells are now being put down in that locality. Gas, and a small show of oil, was observed within twelve feet of the surface. One of the wells, at last accounts, was down 240 feet, with encouraging prospects.

Our readers are already familiar with the boring operations on the Potrero, near the terminals of the long bridge, in this city. They are now down some 300 feet. Whether oil in paying quantities will be struck, is a matter for the future to decide; but that indications of oil are found there, and that a small quantity of oil has been skimmed from the surface of the water raised from that well, we have good reason for believing.

It may not be out of place in this connection to note the fact that Mr. W. H. Jones, an experienced Pennsylvania oil operator, has recently obtained some special concessions from the Imperial government at Mexico, under which he has already made some important oil developments near the city of Mexico. We clip the following singular extract in relation to his operations from an Eastern exchange:

"The church of Guadalupe is situated at the foot of the high bluffs about three miles north of the city of Mexico, and is celebrated as being the oldest and richest on this Continent. At the laying of its foundation, over three hundred years ago, it seems a vein of oil was struck, which has been continually flowing since. It was soon discovered to possess medicinal properties, and was supposed to be a commendatory blessing, from the Virgin of Guadalupe, on the enterprise that was raising up so beautiful a temple for her worship.

The fame of this ointment was soon told throughout the land, and the people came from a distance of a thousand miles to be healed. It is proper to add that this was not an unprofitable speculation, as the priests managed it carefully and sold the wonderful fluid at a dollar an ounce in gold. The arrival of Mr. Jones, however, and his examination of the mineral, resulted in his proclamation of the discovery that it consisted of petroleum, and, despite the earnest protests of the priests, he produced a mining patent, according to the laws of the country, which gives him the privilege of excavating and boring in the very centre of the holy convent itself if necessary. He put down seven wells, varying in depth from fifteen to fifty feet, and in every instance found an excellent show of oil, one of which produced fifteen gallons per day. A remarkable feature of this oil is its purity, it being perfectly clear and lighter than most of our refined oil, and burning with a clear and brilliant light as taken from the well, without refining. The city of Mexico now depends on the United States for its illuminating material, and oil with heavy duties and expense of packing over the mountains on mules' backs, a distance of three hundred miles, swells the cost, when landed in that city, to \$2.50 per gallon in gold. With this and the surrounding cities it seems there is ample market for a large quantity of petroleum, and with the high rates it commands, and the cheapness of labor, this promises to be a profitable speculation."

A PENDULUM, thirty-nine inches in length, gains a second in every thousand, and one of 39.2 loses seven seconds in every ten thousand. The first pendulum clock was made in 1641, for St. Paul's, Convent Garden.

Mechanical.

EFFECTS OF WATER ON MOLTEN IRON.

Two accidents of a somewhat singular character have recently been noticed as having occurred—one at a foundry in Troy, N. Y., and the other at a foundry at Barnstable, Mass. The former is described as follows:

At the Clinton Foundry, Troy, on Wednesday, there was a decidedly novel and dangerous eruption of liquid fire. The workmen approached the eupola, and tapped it to fill their ladles as usual. One of the ladles proved to have been wet, and exploded, scattering the fire in all directions. The men naturally ran away to avoid being burned, and the stream of molten iron came pouring out on the floor, rendering it so hot as to be impossible to approach the place, and it spread over the floor a perfect river of fire, until the muck was exhausted. A number of workmen were burned, but not so as to disable them.

The Barnstable *Patriot* describes the accident at Barnstable as follows:

It appears that it has been the habit of moulders to turn melted iron into water contained in wooden pails, in order to heat it for washing purposes, but on this occasion a wooden pail not being at hand, an iron one was used, which proved rather a dangerous experiment. No sooner did the lava touch the water than the pail burst with a report loud as that of a cannon, and the fragments of the pail were thrown in every direction with such force as to go through the walls of the building, and perforate iron pots standing ten feet from the pail. Several of the workmen were knocked down, but miraculously saved from serious injury.

Reading the above reminds us of several experiments recently made by a gentleman of this city, preliminary to carrying out a patent project in which he was engaged for preventing the explosion of steam boilers. The experiment to which we particularly refer was described to us as follows: He took a small four-pound cannon ball, dipped it into water and then placed it into a long, inclined spout, down which it rolled until it dropped into a ladle of molten iron which had been placed to receive it. The result of the contact of the wet iron with the molten mass was an instantaneous explosion, which threw every particle of the molten iron out of the ladle. This was repeated several times with a like result. The cause of the explosion was the sudden decomposition of the water and burning of the hydrogen, by being liberated in immediate contact with the atmosphere and the hot molten iron.

PEAT FOR FUEL ON LOCOMOTIVES.—A trial of the value of peat as fuel for making steam on a locomotive was recently made on the New Haven, Hartford and Springfield Railroad. The peat was pressed. The trial was made on a special trip carrying the Superintendent, Directors and invited guests. The result is summed up as follows:

The whole distance to Springfield and return (fifty-two miles), consumed but about twelve hundred weight of peat. In the generation of steam, it far exceeded either wood or coal, and even while running at the greatest speed, so rapidly did it gain, that the furnace door had to be thrown open. The last six miles of their return trip was made without using a particle of fuel. One great consideration, which will be hailed with joy by the traveling public, is the entire absence of smoke or cinders, the whole substance burning to ashes. The engine, on its return, was apparently as free from cinders as when it first started out. The trip was conceded to be a perfect success in all respects; in fact, more than realizing the anticipations of its most earnest friends. The peat was obtained from the company's heds, on the line of the road, between Berlin and Meriden; and has demonstrated the fact that it will supersede both wood and coal for general use.

OWNING UP.—The London *Standard* says: "Already the Americans have made fifteen hundred 15-inch guns, which have been tested to be perfectly safe for a thousand rounds with spherical shot of 440 pounds, and powder charge of 50 pounds. They have also 20-inch guns, throwing round projectiles of 1,080 pounds, with a powder charge of 100 pounds. These guns have been tested to 808 rounds. The turret ships *Puritan* and *Passaconaway* are armed with these 20-inch guns, and from the nature of their armament would be more than a match for the whole of the English iron-clad fleet combined."

TREES, etc., which fall into the pitch lake of Trinidad, soon become true coal.

MACHINE HAMMER FOR DRILLING.—At a recent meeting of the American Institute, New York, Mr. Hyde exhibited an ingenious hammer, operated by a crank, to be used for striking drills in an inclined or horizontal position in drilling rock. It promised to be particularly useful in tunnels where drills were introduced inclining upward. The machine would operate a hammer weighing twenty-five pounds with ease. Men can strike directly with sledges either perpendicular down, or slightly inclined, but this instrument greatly reduces the labor in striking upward. There is eccentric gearing which draws the hammer backward slowly, but strikes it quickly forward. The editor of the N. Y. *Stockholder* has seen this hammer, and thinks it well calculated to effect a saving of muscle in mining and quarrying operations.

PAPER PIPES are becoming quite generally used in France for water and gas. They are made from two inches to two feet in diameter, and sometimes half an inch thick, at which thickness they will withstand a pressure of 500 pounds to the square inch. These pipes are made by passing a strip of paper through molten bitumen, and then winding it round a mandril under pressure. Pipes as large as two feet in diameter have been laid in the streets of Paris. Both gas and water companies have used them.

TESTS OF RAILS.—The following tests of the strength of different kinds of rail to resist the blow of a hammer, were made at the machine shop of the Boston and Providence Railway Company, under the supervision of the master mechanic, Geo. S. Griggs, Esq. The rails were placed under the steam hammer separately, resting on blocks of iron placed fourteen inches apart. Each piece of rail was about three feet long, and each received the same drop of hammer weighing 700 pounds:

	lbs. to yd.	No. Blows recd from steam hammer.	Bent.	Dented.
Cast-steel rail.....	60	85	3 1/2 in.	1 1/2 in.
Steel headed rail.....	63	42	3 1/2 in.	1 1/2 in.
Eng. rail, 2 samples.....	55 ea.	24 ea.	3 1/2 in.	1 1/2 in.
English rail.....	56	13	broke.	.....
Our common rail.....	56	13	3 1/2 in.	3 1/2 in.

There was no fracture in any of the above rails except in the English rail marked "broke."

CHINESE ENGINEERING.—We have no hydraulic construction as great as the Chinese canal, no fortifications as extensive as the Chinese wall; we have no artesian wells that at all approach in depth some of theirs. We have not yet resorted to the practice of obtaining coal from the interior of the earth; they have borings for that purpose more than 3,000 feet deep.

A USEFUL ALLOY.—An alloy consisting of 10 parts of cast-iron, 10 of copper, and 80 of zinc does not adhere to the mold in casting, and it is of a beautiful luster when filed and polished. The most fractious metals are melted first and the zinc last in making it.

BUILDING SUPPORTS.—In the old Saxon cathedrals one-third of the entire area was employed for walls and piers; in the Pantheon at Rome, one quarter; in St. Paul's, one-sixth; in the Crystal Palace, only one two-thousandth part of the area covered is occupied by walls and supports.

SLEEPERS made of mahogany are almost indestructible to the attack of the white ant and seaworm. An engagement has just been entered into to deliver on board a ship at Fremantle, Australia, 600 loads of such sleepers, for an Indian railway, at £3 13s. 6d. per load.

M. H. St. Claire Deville succeeded in fusing and casting in a mold upwards of two hundred weight of platinum. During the operation considerable quantities of the fumes of osmic acid were evolved, which seriously affected the health of the operator.

INTERESTING CHEMICAL DISCOVERY.—M. St. Claire Deville succeeded in resolving carbonic acid into an explosive mixture of oxygen and carbonic acid. This was accomplished at a temperature of about 1,300 deg. cent.

TRUBAINE made a mirror of eleven feet focus. It melted steel in five minutes and silver coin in a few seconds.

It has lately been discovered that sodium or potassium placed in contact with gun cotton will cause the latter to explode.

COPPER precipitated by galvanism is much harder and more dense than when cast or rolled.

A NUMBER of engines have recently been stolen from the oil regions of Pennsylvania?

Scientific Miscellany.

ALLYLE.—How few there are who know anything about "allyle," yet, in some shape or other, it forms a portion of the daily banquet of all the human race. The pungent taste of watercresses, of onion, horse radish, chive, garlic, leek, assafetida, shallot, radish, and common mustard, is entirely owing to a certain combination of allyle. When onions are chopped fine, a pungent vapor arises, the effects of which are well known by its making "the eyes water." This volatile substance is a peculiar essential oil, or otto, so small in quantity that a cwt. of onions, on being distilled, only yields two ounces. This substance is a combination of sulphur and allyle (sulphuretted allyle). It is very remarkable the characteristic burning flavor of this substance should prevail in plants so totally different as watercresses, garlic, etc., and that man should have selected them for food to gratify some peculiar instinct—some bodily want. From the Firth of Forth to the banks of the Nile, the onion, the assafetida, and all those plants which contain allyle, are esteemed as relishes. By Europeans the assafetida is considered unpleasant; but in Asia it is collected and sold as a condiment. Even among ourselves there is some difference of opinion respecting the use of those plants for food which contain allyle. The poor rarely require mustard to relish their beef; and among the rich it is considered the height of vulgarity to eat a leek or an onion. The general taste, however, for these plants may be traced to the most remote ages. When the Israelites were sojourning in the wilderness, they murmured, saying: "We remember the cucumbers and the melons, and the leeks, and the onions, and the garlic." (Numbers xi., 5.) It appears that a certain portion of allyle is essential to our health, and that, like the instinct which induces us to eat salt, we have searched out those plants which contain allyle, and mix them with our daily food. We cannot exist without salt, nor can we thrive without allyle. It is a positive fact that those families who reject the use of those plants which yield allyle, such as the onion, etc., become degenerate, and finally extinct. Such is the penalty of fashion. The name of this active principle—allyle—has been given to it from the generic name (*Allium*) of the plant in which it is found.

INTERESTING EXPERIMENT.—At the last meeting of the Chemical Society of Paris, Dr. Phipson called attention to the sudden fall of temperature which occurs when certain metals are mixed together at the ordinary temperature of the atmosphere. The most extraordinary descent of temperature occurs when 207 parts of lead, 118 of tin, 284 of bismuth, and 1,617 of mercury are alloyed together. The external temperature being at $+170^{\circ}$ centigrade at the time of the mixture, the thermometer instantly falls to -10° below zero. Even when these proportions are not taken, with absolute rigor, the cold produced is such that the moisture of the atmosphere is immediately condensed on the sides of the vessel in which the metallic mixture is made. The presence of lead in the alloy does not appear to be so indispensable as that of bismuth. Dr. Phipson explains this fact, by assuming that the cold is produced by the liquefaction at the ordinary temperature of the air of such dense metals as bismuth, etc., in their contact with the mercury.

LOCAL ANÆSTHESIA.—The subject of local anesthesia, to which the medical attention has lately been directed, has been carefully pursued by Dr. B. W. Richardson, and with much success. Operations of the most severe kind have been performed on parts narcotized by his process, without the least sensation of pain on the part of the patient. In this method the patient retains his consciousness completely, but the part to be operated on is deprived of sensation. A new agent for the purposes of local anesthesia was suggested by M. Delcominate to the Surgical Society of Paris at a late meeting. It is bisulphide of carbon. It produces refrigeration in less than a minute, and more completely than ether. The great objection to the suggested fluid is its smell, which is abominable. M. Delcominate, however, has described a process by which much of this smell may be removed.

A NEW DISEASE has been described in the *Journal de Pharmacie*, to which Dr. Callani gives the name of "acetonic." It is thought to be produced by the formation of a chemical compound called acetone in the system, which compound arises from the fermentation of organic matter in the stomach.

IVORY when cut in slices of a thickness of one-twentieth of an inch, becomes transparent in liquid phosphoric acid of a specific gravity of 1.131. The ivory is washed, after the immersion, in clean water, and dried with a linen cloth.

HYDROGEN passed over phosphorus contained in a glass tube takes up sufficient of that substance to color the flame green.

PROFESSOR SCHONBEIN has discovered a new method of procuring the per-oxide of hydrogen, which consists in simply agitating, in a large flask, to which air has access, amalgamated zinc, in powder, with distilled water. Oxygen is then absorbed by both the zinc and the water, with formation of oxide of zinc and peroxide of hydrogen. The peroxide of hydrogen obtained by this method, unlike that obtained by the ordinary process, is quite free from acid, and so may be kept for a long time without decomposition. It does not contain, moreover, a trace of either zinc or mercury, but is absolutely pure. This new process has therefore great advantages over the old process of preparing peroxide of hydrogen, both as being far simpler and more expeditious, and as yielding a much purer product; but it is almost as far as the old process from yielding peroxide of hydrogen cheaply enough for use in the arts.

SPIDERS AND THE TELEGRAPH.—It has been found that one great difficulty to be met with in telegraphy, arises from the webs of spiders, which, when extending in great numbers from the wires to trees or the ground, and being wet with heavy fogs or gentle rains, become so good conductors as to seriously impair insulation. Who can overcome the mighty obstacle imposed by a spider's web to the progress of the telegraph!

NEW PROCESS FOR MAKING WHITE LEAD. M. Torreggiani recently informed the Academy of Sciences at Paris, that after repeated experiments, he had proved that a galvanic pile in which the positive pole was represented by metallic lead, and which contained a saline solution (an alkaline acetate), gave a large quantity of pure carbonate of lead besides electricity, which might be profitably employed. M. Torreggiani considers that is an easy and innoxious way of making white lead.

SILK FROM FISHES.—M. Joly, a well known French chemist, has found, singularly enough, within the bodies of certain marine fishes, a substitute for the cocoon of the silk-worm. The exterior envelope of the eggs of the fishes in question consists of a very fine tissue composed of an immense number of exceedingly delicate filaments, which admit of being readily separated, and then exactly resemble those of ordinary silk. The eggs are one-quarter of an inch in diameter one way, by one-eighth the other, and in their interior is a white albuminous matter, which M. Joly believes can be utilized in calico printing, and a yellow coloring matter, which he imagines may prove valuable as a dye. The obtaining from the envelopes of the eggs of a material for textile fabrics, closely resembling ordinary silk, he declares to be economically practical on any scale.

DISSOCIATION OF GASES.—In a recent memoir, M. Cailletet has published some interesting statements upon the subject of the dissociation of gases under high temperatures. He collected the gases proceeding from a peculiar form of furnace, in which charcoal and coke were burning, and from his analysis of them he has been led to conclude that oxygen has no action on hydrogen, carbon and carbonic oxide in the midst of a combustible mass, which is maintained at a temperature higher than that of the fusing point of platinum. The following are the figures resulting from the analysis made by M. Peligot:

Oxygen.....	15.24
Hydrogen.....	1.80
Carbonic oxide.....	2.10
Carbonic acid.....	3.00
Nitrogen.....	77.86
	100.00

TOBACCO.—M. Melsens, a French chemist, has found that tobacco from various countries, contains nicotine in very different proportions. In tobacco from some parts of France there is 7.96 per cent. of nicotine; whilst from Havana tobacco contains only two per cent. He proposes to smokers a way of preserving them from the effects of alkaloids by putting into the tube of the pipe or cigar-holder a little ball of cotton, impregnated with citric and tonic acids. As the smoke passes through the cotton, it will deposit the nicotine therein, in the shape of tannate and citrate.

WATER IN A VACUUM.—By placing water in a flask in the vacuum of a good air-pump, and heating it by the transmission of a strong electric current, Mr. Grove proved that the water did not boil at all, but that the whole burst up into violent convulsions at regular intervals.

The window of a photographer's "dark room" may be painted with a mixture of acid solution of sulphate of quinine in dextine or gum arabic. The mixture should be applied on a sheet of paper, and this placed on the glass, and it is said no actinic rays, even on the brightest days, can pass a window so prepared.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Friday, July 13.

AFTERNOON SESSION.

12 shs Ophir at 255 per foot.
 36 shs Ophir at 232½ per foot, s. 3.
 4 shs Crown Point at 700 per foot.
 14 shs Yellow Jacket at 622½ per foot, s. 30.
 1 sh Yellow Jacket at 622½ per foot, s. 30.
 5 shs Yellow Jacket at 625 per foot, s. 30.
 1 sh Yellow Jacket at 630 per foot, s. 10.
 4 shs Gould & Curry at 690 per foot, s. 30.
 3 shs Chollar-Potosi at 192½ per foot, s. 10.
 4 shs Chollar-Potosi at 192½ per foot, s. 3.
 10 shs Sierra Nevada at 5½ per share.
 115 shs Sierra Nevada at 6 12½ per share.
 40 shs Sierra Nevada at 6 12½ per share, s. 3.
 5 shs Confidence at 62½ per share, s. 30.
 10 shs Confidence at 60 per share.
 5 shs Overman at 60 per share, h. 10.
 5 shs Overman at 60 per share, s. 3.
 40 shs Overman at 49½ per share.
 5 shs Overman at 48 per share, s. 15.
 2 shs Imperial at 101 per share.
 \$10,000 Legal Tender Notes at 70½c.
 Amount of sales.....\$ 32,756 00

Saturday, July 14.

60 shs Ophir at 245½ per foot, s. 3.
 48 shs Ophir at 255 per foot, s. 30.
 12 shs Ophir at 252½ per foot, b. 5.
 12 shs Ophir at 250 per foot, s. 30.
 21 shs Ophir at 245 per foot, h. 10.
 14 shs Ophir at 252½ per foot, s. 5.
 8 shs Belcher at 160 per foot, b. 10.
 4 shs Belcher at 160 per foot, h. 3.
 2 shs Belcher at 160 per foot, s. 3.
 5 shs Belcher at 165 per foot, s. 30.
 6 shs Belcher at 160 per foot.
 10 shs Yellow Jacket at 625 per foot.
 1 sh Savage at 885 per foot, s. 30.
 4 shs Crown Point at 715 per foot, s. 30.
 2 shs Crown Point at 715 per foot, s. 10.
 3 shs Chollar-Potosi at 190 per foot.
 157 shs Overman at 41½ per share.
 38 shs Overman at 41½ per share, s. 3.
 15 shs Overman at 41½ per share, s. 15.
 20 shs Overman at 41½ per share, s. 15.
 10 shs Overman at 45 per share, h. 10.
 10 shs Overman at 46 per share, h. 10.
 14 shs Sierra Nevada at 6½ per share.
 50 shs Sierra Nevada at 6½ per share, b. 3.
 10 shs Exchequer at 305 per share.
 9 shs Confidence at 60 per share.
 5 shs Bullion at 51 per share, s. 3.
 10 shs Bullion at 51 per share.
 2 shs Imperial at 90 per share.
 8 shs Imperial at 90 per share, s. 3.
 5 shs Cal Steam Nav Co at 60 per cent, s. 3.
 \$10,000 Legal Tender Notes at 70½c, s. 3.
 Amount of sales.....\$ 43,862 00

Monday, July 16.

36 shs Ophir at 250 per foot.
 24 shs Ophir at 250 per foot, s. 3.
 24 shs Ophir at 352½ per foot, s. 5.
 24 shs Ophir at 235 per foot, s. 3.
 10 shs Savage at 900 per foot.
 2 shs Savage at 920 per foot, h. 30.
 2 shs Savage at 90 per foot, h. 3.
 2 shs Savage at 920 per foot, b. 10.
 2 shs Savage at 915 per foot, s. 3.
 4 shs Crown Point at 750 per foot.
 1 sh Belcher at 160 per foot, h. 3.
 3 shs Belcher at 157½ per foot.
 8 shs Belcher at 155 per foot, s. 3.
 3 shs Chollar-Potosi at 192 per foot.
 6 shs Chollar-Potosi at 200 per foot, h. 30.
 6 shs Yellow Jacket at 555 per foot.
 1 sh Yellow Jacket at 550 per foot, s. 30.
 10 shs Imperial at 90 per share, s. 30.
 15 shs Imperial at 90 per share, s. 3.
 15 shs Imperial at 90 per share.
 5 shs Imperial at 90 per share, b. 3.
 97 shs Overman at 44½ per share.
 30 shs Overman at 40½ per foot, s. 3.
 10 shs Overman at 44 per share, h. 5.
 5 shs Overman at 45 per share, h. 30.
 10 shs Golden Rule at 15 per share.
 5 shs Bullion at 45 per share.
 5 shs Sierra Nevada at 5½ per share.
 60 shs Lady Bryan at 1 per share.
 \$5,000 Legal Tender Notes at 70½c, s. 3.
 \$13,000 Legal Tender Notes at 70½c.

AFTERNOON SESSION.

20 shs Gould & Curry at 700 per foot.
 4 shs Gould & Curry at 725 per foot, b. 3.
 24 shs Gould & Curry at 725 per foot.
 1 sh Savage at 925 per foot.
 2 shs Savage at 930 per foot.
 13 shs Chollar-Potosi at 191 per foot.
 2 shs Belcher at 150 per foot.
 1 sh Belcher at 140 per foot.
 1 sh Belcher at 140 per foot, b. 2.
 1 sh Yellow Jacket at 660 per foot.
 1 sh Yellow Jacket at 550 per foot, s. 30.
 5 shs Yellow Jacket at 555 per foot.
 2 shs Yellow Jacket at 570 per foot, h. 30.
 12 shs Ophir at 255 per foot.
 5 shs Overman at 43½ per share, s. 3.
 5 shs Overman at 44 per ft, h. 5.
 16 shs Overman at 44 per share, b. 3.
 50 shs Overman at 44½ per share.
 10 shs Overman at 46 per share, h. 30.
 65 shs Overman at 45 per share.
 10 shs Overman at 45 per share, s. 3.
 5 shs Overman at 45 per share, s. 30.
 10 shs Overman at 46 per share, s. 20.
 10 shs Overman at 46 per share, h. 15.
 5 shs Bullion at 45 per share, h. 3.
 2 shs Imperial at 92 per share.
 1 sh Imperial at 91 per share, s. 30.
 6 shs Bullion at 91½ per share.
 30 shs National Ins. Co at 78 per cent.
 22 shs Spring Valley W W at 65 per share.
 \$6,500 Legal Tender Notes at 71c.
 Amount of sales.....\$ 82,748 00

Tuesday, July 17.

144 shs Ophir at 245 per foot.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, July 21st, 1866.

A fair inquiry for money prevailed on Saturday, but since then the market has been easy. The demand for regular business purposes is small, and the speculative requirement exhibits no new feature. The rate of discount in Bank is 1½ per cent. per month, and in the open market, 1½ to 2 per cent.

Messrs. N. Luning, D. J. Tallant, and L. Saachs have been chosen Directors of the Bank of California, to fill vacancies. The capital of the Bank is now \$5,000,000, all paid up in gold.

Currency bills on the Atlantic are offered at 45 per cent. premium on gold. Sight drafts payable in coin are quoted at 2½ per cent. premium, and Telegraph Transfers are made at 3 per cent.

Bullion has been in good request. Gold Bars may be quoted at 860 to 870. Silver is worth about 1 per cent. premium for nverage bars. Receipts of Treasure from the interior since the date of our last reference, amounted to \$950,000, making an aggregate of nearly \$3,000,000 thus far during the current month.

Our Treasure export during the first half of the past three years, has been as follows:

	1864.	1865.	1866.
To New York.....	\$ 5,607,940	\$ 9,918,794 61	\$ 14,970,863 87
To England.....	19 8 5-269	9,761,532 00	3,305,527 11
To China.....	2 9 1-753	373,928 00	3,745,815 52
To Panama.....	158,205	2,330,000 00	331,549 88
Other Countries.....	452,514	1,673,669 17	1,044,100 03
	\$ 8,999,711	\$ 21,050,613 23	\$ 29,407,228 24

The increase in the exports of treasure this year, as compared with that of last, is \$2,357,115. The Sub-Treasurer of this city has made a number of shipments to the East since the beginning of the year, amounting in the aggregate to \$5,500,000, which are not embraced in the above table.

The following table, showing the total disbursements and revenue of the Government for the first six months of the past as well as of the present year, is of some interest:

	First half of 1865.	1866.
DISBURSEMENTS.		
Army Service.....	\$ 105,977	\$ 219,401
Naval Service.....	5,000	6,000
Revenue Service.....	285,000	3,000
Postal Service.....	175,000	170,000
Miscellaneous.....	180,000	181,000
Totals.....	\$ 8,275,977	\$ 6,534,400
REVENUE.		
First half of 1865.		
Duties on Imports.....	\$ 3,216,633	\$ 3,309,358
Postal Department.....	165,000	95,000
Internal Revenue.....	1,214,433	2,038,911
Sale of Stamps.....	219,500	182,000
Miscellaneous.....	100,000	100,000
Totals.....	\$ 4,891,566	\$ 5,755,269

The Mining Share Market has exhibited rather more animation this week, and nearly all stocks have been dealt in at enhanced rates.

28 shs Ophir at 249 per foot, s. 15.
 24 shs Ophir at 219 per foot, s. 3.
 5 shs Savage at 940 per foot.
 9 shs Chollar-Potosi at 183 per foot, s. 30.
 11 shs Chollar-Potosi at 183 per foot, s. 3.
 2 shs Hale & Norcross at 1250 per ft, s. 3.
 3 shs Hale & Norcross at 1275 per ft, s. 3.
 3 shs Yellow Jacket at 555 per foot, s. 30.
 1 sh Yellow Jacket at 570 per foot, h. 30.
 1 sh Yellow Jacket at 570 per foot, s. 3.
 3 shs Belcher at 157½ per foot, h. 3.
 1 sh Belcher at 140 per foot, h. 3.
 1 sh Gould & Curry at 740 per foot.
 30 shs Overman at 52 per share, s. 3.
 85 shs Overman at 49½ per ft.
 20 shs Overman at 54 per ft, h. 3.
 40 shs Overman at 52½ per share, h. 30.
 10 shs Overman at 54 per share, h. 15.
 10 shs Overman at 51 per share, s. 30.
 15 shs Sierra Nevada at 5½ per share.
 11 shs Confidence at 52½ per share.
 10 shs Imperial at 90 per share, s. 30.
 22 shs Spring Valley W W at 65 per ft.
 \$ 5,000 Legal Tender Notes at 74½c.
 \$1,000 Legal Tender Notes at 71c, s. 60.

AFTERNOON SESSION.

2 shs Yellow Jacket at 550 per foot.
 1 sh Yellow Jacket at 547½ per ft.
 1 sh Yellow Jacket at 545 per ft, b. 2.
 1 sh Yellow Jacket at 545 per foot.
 2 shs Belcher at 145½ per foot.
 1 sh Belcher at 150 per foot.
 11 shs Chollar-Potosi at 192½ per foot, b. 30.
 6 shs Chollar-Potosi at 185 per foot, s. 3.
 4 shs Chollar-Potosi at 186 per foot.
 12 shs Ophir at 250 per foot, b. 2.
 35 shs Overman at 54½ per share.
 10 shs Overman at 56 per share, s. 3.
 25 shs Overman at 56 per share, h. 30.
 5 shs Overman at 57 per share, h. 15.
 15 shs Overman at 55½ per share.
 25 shs Overman at 55½ per share, s. 3.
 6 shs Overman at 56 per share, h. 5.
 15 shs Overman at 55½ per share, b. 2.
 10 shs Overman at 55½ per share, s. 30.
 60 shs Sierra Nevada at 4 per share.
 8 shs Imperial at 92 per share.
 5 shs Confidence at 63 per share.
 5 shs Confidence at 57½ per share, b. 30.
 5 shs Confidence at 56½ per share.
 10 shs Confidence at 60 per share.
 10 shs Confidence at 60 per share, b. 30.
 5 shs Confidence at 57½ per share, s. 30.
 2 shs Cal Steam Nav Co at 60 per cent.
 10 shs National Insurance at 78 per cent.
 \$5,000 Legal Tender Notes at 71½ per ct, s. 30.
 Amount of sales.....\$ 91,329 00

Wednesday, July 19.

12 shs Ophir at 252½ per foot.
 36 shs Ophir at 255 per foot, s. 3.
 4 shs Belcher at 150 per foot, s. 3.
 2 shs Belcher at 150 per foot.
 18 shs Chollar-Potosi at 185 per foot.
 5 shs Chollar-Potosi at 185 per ft, s. 30.
 1 sh Chollar-Potosi at 185 per ft, c.
 2 shs Yellow Jacket at 540 per foot, c.
 1 sh Yellow Jacket at 540 per foot, s. 3.
 1 sh Yellow Jacket at 540 per foot.
 2 shs Yellow Jacket at 540 per foot, s. 30.
 2 shs Savage at 925 per foot.
 4 shs Savage at 920 per foot, o.
 1 sh Savage at 910 per foot, s. 3.
 150 shs Sierra Nevada at 4½ per share.
 85 shs Overman at 50½ per share.
 15 shs Overman at 52½ per share, b. 3.
 33 shs Overman at 52 per share, c.
 10 shs Overman at 51 per share, s. 30.
 6 shs Overman at 54 per share, s. 3.
 5 shs Imperial at 91 per share.
 10 shs Imperial at 90 per share, s. 3.
 23 shs Exchequer at 4½ per share.
 3 shs Exchequer at 4 per share.
 2 shs Cal Steam Nav Co at 60 per cent.
 \$5,000 Legal Tender Notes at 71½ per ct.

AFTERNOON SESSION.

36 shs Ophir at 255 per foot.
 12 shs Ophir at 265 per foot, s. 30.
 12 shs Ophir at 275 per foot, b. 30.
 12 shs Ophir at 270 per foot.
 12 shs Ophir at 270 per foot, s. 30.
 1 sh Savage at 910 per foot, h. 3.
 1 sh Savage at 930 per foot, h. 30.
 1 sh Savage at 910 per foot, h. 2.
 2 shs Savage at 910 per foot.
 1 sh Savage at 935 per foot, h. 30.
 1 sh Savage at 915 per foot, h. 3.
 1 sh Yellow Jacket at 550 per foot, b. 3.

Hale & Norcross was sold at \$1,250 to \$1,275 ex-dividend, and close at \$1,300 asked. The product of the mine for the first half of the month exceeded 1,300 tons of ore, worth an average of about \$155 per ton. In raising 30 feet above the 135-foot level, the lode continues to look well, and a body of ore 595 feet in depth has now been developed. This shows in some places a width of 30 feet, and extends 200 feet in length.

Savage rose from \$885, seller 30, to \$950, receded to \$911, and sold yesterday at \$930 to \$900. Advices continue favorable, and the surplus at the credit of the company has materially increased since the 11th instant.

Gould & Curry was sold at \$740 to \$722½, closing at \$700. Receipts of bullion for the first fifteen days of this month amounted to \$41,500 from the company's mill. A large portion of the net earnings are being applied to the purchase of supplies for the winter, and a recent purchase of some 4,000 cords of wood involved an expenditure of \$56,000.

Crown Point is in better favor, advancing from \$715 to \$850, and closing at about \$800 bid, \$820 asked. Repairs to the shaft and improvements at the Rhode Island mill are progressing favorably.

Yellow Jacket declined from \$625 to \$545 ex-dividend, rose to \$570, and sold yesterday at \$595 to \$565. During the week ending 9th inst., 1,577 tons of second class ore were extracted, and the total yield of bullion exceeded \$48,500.

Ophir has attracted more attention, and nearly 200 feet were sold, advancing from \$248 to \$325, receding to \$290, and selling yesterday at \$275 to \$280. A new development was made a few days since in the 8th gallery, 30 feet south of the Mexican line, and latest telegraph advices state that the ore met with is improving and the vein well defined.

Chollar Potosi has been dealt in within a range of \$193 to \$185, closing at \$187. In the various stations throughout the mine there is no change whatever to report. During the week ending 13th inst., 583 tons of ore were sent to Custom Mills.

Belcher declined from \$160 to 137½, rallied to \$157½, and sold at the close at \$146.

Imperial is inactive, but well held, advancing from \$90 to \$92, and selling yesterday at \$94. Receipts of bullion for the first three weeks of this month are nearly up to the average of a corresponding period last month.

Overman has continued to be very actively dealt in at fluctuating rates, rising from \$41 to \$64½, then declining to \$52, and selling yesterday at \$45 to \$39. With respect to the real character of recent developments advices are somewhat conflicting, but in the main favorable. Bullion fell from \$51 to \$42, closing at \$46. Sierra Nevada fell from \$6¼ to \$4, rose to \$6¼, and closed at \$5.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday amounted to \$482,106.

2 shs Yellow Jacket at 550 per foot.
 5 shs Overman at 55½ per share.
 5 shs Overman at 56 per share.
 5 shs Overman at 57 per share, b. 30.
 5 shs Overman at 56½ per share.
 10 shs Overman at 58 per share, h. 30.
 20 shs Overman at 58 per share.
 5 shs Overman at 57½ per share.
 20 shs Overman at 57½ per share.
 10 shs Overman at 57½ per share, s. 3.
 15 shs Overman at 57 per ft, s. 30.
 20 shs Overman at 60 per share, b. 30.
 5 shs Overman at 53½ per share.
 25 shs Overman at 59 per share.
 20 shs Overman at 59½ per share.
 30 shs Overman at 59½ per share, h. 3.
 19 shs Overman at 59½ per share, s. 3.
 5 shs Overman at 60 per share, b. 3.
 5 shs Sierra Nevada at 5 per share.
 Amount of sales.....\$ 71,233 00

Thursday, July 20.

23 shs Ophir at 300 per foot.
 24 shs Ophir at 325 per foot, h. 10.
 43 shs Ophir at 310 per foot, s. 30.
 36 shs Ophir at 315 per foot, s. 30.
 12 shs Ophir at 32½ per foot, s. 3.
 1 sh Yellow Jacket at 570 per foot, h. 10.
 2 shs Yellow Jacket at 565 per foot.
 2 shs Belcher at 155 per foot, h. 30.
 1 sh Belcher at 155 per foot.
 10 shs Overman at 62½ per share, s. 30.
 21 shs Overman at 64½ per foot.
 65 shs Overman at 64½ per foot, s. 3.
 10 shs Overman at 63 per share, b. 10.
 20 shs Overman at 60½ per share, h. 30.
 10 shs Overman at 60½ per share, s. 10.
 35 shs Overman at 60½ per share, h. 3.
 20 shs Sierra Nevada at 5½ per share, s. 3.
 75 shs Sierra Nevada at 5½ per share.
 5 shs Bullion at 47½ per share.
 10 shs Imperial at 91 per share, s. 3.
 5 shs Confidence at 53 per share.

AFTERNOON SESSION.

12 shs Ophir at 305 per foot.
 72 shs Ophir at 305 per foot, s. 3.
 12 shs Ophir at 301 per foot.
 24 shs Ophir at 300 per foot, s. 3.
 12 shs Ophir at 295 per foot, s. 3.
 12 shs Ophir at 300 per foot.

Friday, July 20.

12 shs Ophir at 300 per foot.
 84 shs Ophir at 282 per foot.
 36 shs Ophir at 290 per foot.
 36 shs Ophir at 275 per foot.
 2 shs Savage at 930 per foot.
 1 sh Savage at 925 per foot.
 2 shs Savage at 900 per foot.
 1 sh Yellow Jacket at 570 per foot.
 2 shs Yellow Jacket at 565 per foot.
 2 shs Yellow Jacket at 560 per foot.
 5 shs Imperial at 94 per share.
 4 shs Crown Point at 850 per foot.
 4 shs Crown Point at 840 per ft, h. 30.
 15 shs Chollar-Potosi at 190 per foot.
 1 sh Belcher at 155 per foot, h. 30.
 2 shs Belcher at 155 per foot, h. 30.
 10 shs Belcher at 145 per foot.
 5 shs Overman at 51 per share.
 85 shs Overman at 48 per share.
 52 shs Overman at 47 per share.
 75 shs Overman at 46 per share.
 180 shs Overman at 45½ per share.
 10 shs Overman at 47 per share, s. 30.
 Amount of sales.....\$ 67,730 00

Mining Summary.

CALIFORNIA.

Alpine County—

The *Alpine Miner* of July 14th, says: A ton of ore from the Kohinor was worked last week at Whiteside's mill. The return as given was at the rate of about thirty-three dollars per ton, but as the parties who worked it were not practical amalgamators and were not themselves satisfied that they had obtained all they should from the rock, the tailings were carefully saved and an assay made, giving a return of over one hundred dollars per ton in gold and silver. Work will commence on the Buckeye No. 1 immediately on the arrival of the pump and hoisting works.

The Silver Mountain *Bulletin* of same date, gives these items: In the George Washington a furnace will be built, in connection with Whiteside's mill, and by the time it is completed, which will not be over three weeks, the main lode will be cut through the cross tunnel, that will supply an abundance of rock of the richest character. The Morning Star company, Great Mogul district, in drifting north in the ledge, have struck into the "black ore" again, and, from the large volume of water that has of late burst forth, they are confident of being near the second chimney. The Balacava company are vigorously pushing ahead in their tunnel. The vein-stone is increasing in thickness as they penetrate the mountain, and the quality of the rock improving. Buckeye No. 2 have their tunnel heavily and securely timbered, and their "shute" built, and are ready to land reasonable quantities of rich ore at their dump daily. The Mountain company's tunnel is now in near 900 feet. It is to strike the main lode 1,000 feet below the croppings, and is expected to be completed by January 1st, 1867.

Calaveras County—

The Copperopolis *Courier* of July 14th, has these items:—

We were shown, while at Mokelumne Hill, a few days since, some extremely rich specimens of quartz from a claim in Rich Gulch, near Golden Gate, about five miles from the Hill. Work is still progressing in the Caledonia mine, the prospects of the claim offering inducements to the company to continue operations. The Leonard Claim, situated near Tuttle town, is now being worked with energy. In the bottom of the shaft the lead is said to be somewhat richer than at any place above. Work on the Kentucky Claim is going on briskly, with no material change. Prospects in the Antelope are brightening.

From all portions of the country we continue to hear the most flattering reports in relation to our quartz interests. A much larger number of miners are now engaged in prospecting and working quartz leads than ever before in the history of Calaveras. New discoveries are of daily occurrence, and claims which were partially prospected and abandoned years ago, are being re-located by parties who will thoroughly test them. At West Point—the "Grass Valley" of this county—a large number of mills are in active operation. Gouldson & Co. had eighty tons of rock crushed at Smith's mill recently, which yielded them \$150 per ton, leaving them, after deducting all expenses, a profit of \$11,200. Quartz of extraordinary richness was discovered on Monday last in the claim of Beals, Butler & Co., near Railroad Flat. It is said to be nearly one-third gold. Quite a number of surface claims are being successfully worked in Rich Gulch. Lamphear & Co. are employing a large number of hands in their claim, and work is being prosecuted night and day. Their new 10-stamp mill works admirably, crushing from 12 to 15 tons of rock in twenty-four hours. We understand that this claim is yielding largely. Labor has been suspended on the Sulphuretted claim, for a few days, in order to make some alterations in the machinery. Work is steadily progressing on all the other claims in this vicinity.

Humboldt County—

The *Times* has this item: We have received favorable intelligence from the well of the Fortuna Petroleum company, located on Bear River. The well is down five hundred feet. The drill is now passing through a soft gray sandstone, which is strongly impregnated with the odor of petroleum, and from which issues a very strong volume of gas.

Los Angeles County—

From a letter to the *News* of July 6th we gather these items: The San Fernando Petroleum company, under the superintendence of Mr. F. J. Hughes, is progressing very favorably. The oil from this well is of a very superior quality. Mr. Hughes has just put up a pump, the first one in this district.

The Moore springs also will soon be vigorously worked; their present capacity may be four to five barrels per diem. The Wiley and Tously springs are progressing famously. At the Wiley springs there are two drifts running into the banks, one of which is about 170 feet, and has two air shafts; the average pro-

duct of this drift is some 60@70 gallons daily, and the oil is of very excellent quality.

The Tubbs company, half a mile above the Wiley, have lately sunk a shaft with very flattering prospects for boring. The rice spring is being steadily worked, and the oil improves as a greater depth is reached. The Pioneer well is about to resume work.

Mariposa County—

From the *Free Press* of July 14th we clip the following: Messrs. Green and Snediker shipped 22,400 pounds of copper over to Stockton, on Tuesday last, from their vein in the Hamilton district, in this county. This is the first shipment they have made. The ore is of a rich quality, and from specimens shown we doubt if it can be excelled in the State.

Mono County—

A correspondent of the *Atta* writing from Sonora, June 27th, says: Ore from the Elmira and copper lodes, in Hot Springs district, yielded over \$300 per ton. The only trouble is the cost of smelting of the ore. Understanding that the Haskell patent, for working copper, had proved eminently successful, the writer went to the trouble of riding from this point to Buchanan Hollow, on the Chowchilla, to examine it. The furnace will, with a few trifling alterations, succeed in smelting and reducing those ores of Hot Spring, Montgomery, and other districts, that now delay the mill process. Owing to the charge, \$100 per ton, for smelting ore, by the furnaces already erected in Mono county, an immense quantity of good ore, worth from \$75 to \$125 per ton, is thrown aside. By the Haskell and Risdon plan, this could be reduced at a cost of \$40 to \$50 per ton. The necessary fluxes are on hand, and can be procured for simply the expense of hauling.

Nevada County—

From the *Gazette* we gather the following items: Twenty-five men are employed in the Cozeus & Garber's cement mine and mill, near Red Dog. Seventy-five tons of cement are taken out and crushed every twenty-four hours. With the present imperfect means of saving the sulphurets, however, the mine is not paying as well as some others of the same kind. The loss by the destruction of the hoisting works of the Curtis mine is estimated at between four and five thousand dollars. The fire is supposed to have been the work of an incendiary. The Banner mine has only been worked about a year, and during that time some 3,000 tons have been crushed, yielding between thirty and forty dollars a ton, and the cost of mining and milling has not exceeded ten dollars a ton. The company now have a mill of their own, near the mine, and the cost of hauling will hereafter be saved. This mine carries the largest body of uniformly plying ore of any in the county, with the exception, possibly, of the Eureka, and it improves in size and quality of ore as it developed downward.

The *Gazette* says that the "Arabian Nights" is a tame reading by the side of the wonderful mining stories that the *Transcript* tells. The latter stated, for instance, that the Talbot mine, in Willow Valley, had yielded enough to pay for its hoisting works, etc., while the fact is that the cost has been \$19,000, but the yield only \$13,000. Its owners are not "on the sell," and themselves make the correction.

The Grass Valley *National* of the 13th inst. has these items: We note the erection of a new mill on Wolf Creek. The works are being put up by a San Francisco company, who design introducing a new process for working quartz. They propose to rely entirely upon custom work. The rock is to be softened and desulphurized by superheated steam, and then treated in the ordinary manner with stamps and pans. At Sebastopol, the American company, composed of Crall, Swan & Co., are now engaged in putting up a 10-stamp mill for the purpose of crushing the cement with which the claims abound. W. B. Harrington, who came to Grass Valley about two weeks ago, from Austin, and has since been prospecting, strack a ledge six miles south of that place, which is two and a half feet in width. He has since sold the ledge to S. R. Braanon, for \$6,000 in gold coin.

The *Transcript* says: Merrow & Co. have struck cement in their gravel claims at Scott's Flat. The claims in that vicinity have been exceedingly rich, but great difficulty is encountered in working them in consequence of the light grade of the creek. We learn that the Spring Mill mining company, near Nevada, Capt. Day, superintendent, struck very rich rock on Friday last. The company has been at work about eight months, and expended about \$60,000.

It is said that the San Francisco parties who recently purchased a quartz ledge in Wood's Ravine for \$11,000, proceeded immediately to crush a lot of rock, which had been taken out previous to the purchase, and realized therefrom \$13,000. An extensive field of rich gold surface and bank diggings exists near the Old French Cabin, on Grouse Hill, a short distance from the new town of Paris, Nevada county. The new 20-stamp mill of the

Union Hill Mining Company was expected to commence operations on the 16th inst.

Excelsior.—The Meadow Lake *Sun* says the Excelsior company have the frame for their new mill up, and will have it inclosed in a few days. The mill will probably be in operation in a month or six weeks. The *Gazette* gives these items:—A joint stock company has been organized at Meadow Lake for the purpose of erecting a quartz mill to do custom work. The capital stock of the company is \$15,000, divided into six hundred shares of twenty-five dollars each. The mill is to have ten stamps, with sufficient power to run twenty, and to be completed within sixty days after the contract is signed. The owners of the Enterprise mine, in Meadow Lake township, have incorporated in San Francisco. One lot of ore has been shipped to Swansea, Wales, for reduction, and the owners are now having more selected for the same destination, upon which they receive an advance of about a hundred dollars per ton. What is needed now, is a process by which the rock can be reduced and the gold separated, at a reasonable rate, and at the mine. We were shown yesterday some specimens from a ledge recently discovered, situated seven or eight miles from Meadow Lake. The rock is filled with sulphurets of a yellowish color, and it is said to resemble the rock from the Excelsior ledge.

In the issue of the 10th inst., the *Sun* says: We have one mill of eight stamps; two of five each, which are completed, while we have one of twenty almost completed: one of five now being erected; and our citizens are making strenuous efforts to put up another to do custom work. This mill will undoubtedly not only be put up, but will be running within the next sixty days.

The Marysville *Appeal* of July 17th, says: Two of our citizens who took up residences at Meadow Lake, have returned. They do not speak of the present prospects of the town in a very flattering manner, and say that the town and its population is far ahead of the development of the mines.

Placer County—

The *Stars and Stripes* of the 18th instant has these items: Messrs. Millette & Hovey will start up the steam mill on their ledge in Baltimore ravine about the first of August next. They have eight stamps, but will only run four to commence with. Their rock looks well. The shaft on the Taylor ledge is now down to the depth of nearly a hundred feet, and the rock is increasing in richness. Work has been resumed on the Conrad ledge, and specimens recently taken from it are quite rich.

We quote from the editorial column of the same: "It has been suggested that a number of citizens should undertake the development of some fair looking ledge, each contributing a certain sum weekly, until the mine is opened to a moderate depth, and thoroughly prospected by working tests. * * * By this means we can easily demonstrate the value of our mines; and when once we have established their character for permanence and richness, we will have no further trouble for lack of capital."

Plumas County—

The Quincy *Union* of July 11th has the following: The Crescent company are still running one of their mills on Plumas and Premium rock. The new mill is crushing rock from their main ledge. Both of the mills are doing well. The Round Valley mill is running day and night, crushing quartz from the Kittle ledge of Kellogg & Judkins, in Cherokee ravine. The rock is averaging about ten dollars per ton. On Hopkins' Creek, O'Neil, Coyle & Co. have commenced cleaning up, and their claim is paying beyond expectation. Dodge & Co's claim, at Last Chance, is also paying well. Northman & Thomas have commenced cleaning up, and have taken out \$1,200 in three weeks. James Cox has the best claim in the county. Mr. Betts & Co's claim, at Turkeytown, is paying well, and they think they have a big thing. The North Star company are still driving away at their tunnel under Blue Nose.

On Poorman's Creek the miners are all doing well. Gibbons, Henley & Co. struck it big in the creek last week. Turner & Co's claim is paying well. James Gentry intends to commence cleaning up next week. Tom Moore & Co's claim has not been paying very largely of late. Riddle & Brown have a good claim, one of the best on Poorman's. They have not commenced cleaning up, yet they strike a piece now and then. The Diamond man takes out a nugget of thirty-five or forty dollars occasionally.

At Saw Pit Flat times are lively. The mines have all paid well with the exception of the Franklin. The New York has paid beyond the expectation of the shareholders. The Monitor company's claim has paid well. The Union has commenced washing up for the third time since spring. On the first run they took out about seventy-two ounces, sixty-six ounces on the next day, and did not clean the ground-sludge at all. The Eagle company will wash up in a few days.

The boys on the river are all busy putting in

their flumes and wing-dams; not an idle man about, or one to be hired. I think that men who want work would do well to come here.

Shasta County—

The *Courier* of the 14th gives these items: Returns from Big Central rock sent below give an assayed value of \$140 per ton. We know of a dozen lodes at South Fork that will go over \$100 to the ton, and we prophesy that within three months the steamers from Red Bluff will go down loaded with ore from there. The Crystal Company, of South Fork are down twenty-five feet, where they find rock much superior to that on the surface. They are progressing with high hopes of rivaling the Chicago. The Potosi is paying at least \$85 per ton in free gold, and a large amount of sulphurets, the value of which we know not, but are assured by those who claim to be judges that the money in them will carry the value of the lode far beyond \$100 per ton. Recently the Chicago Company sent to San Francisco some twelve or fifteen hundred pounds of their rock to have it worked. The lowest assay had was \$125 per ton. The highest was a working test, a la Swansea, of thirty pounds, which yielded at the rate of \$654.25. They have learned further that the rock cannot be profitably worked by milling. It must be smelted.

Siskiyou County—

From the Yreka *Union* we clip these items: We learn by Mr. Blaskie, of Cottonwood, that extensive placer diggings have recently been discovered about eight miles from that place, on the west branch of Cottonwood Creek. But two claims have been opened, and they showed the ground to be very rich. The prospecting is becoming very lively, and the ground for some distance up the creek has been taken up.

Tulare County—

The Visalia *De'ta* of 11th of July, says:—We learn from Dr. George, who has just returned from Kelso Cañon, that mining matters in the Mt. Sinai and Pi-Ute Districts are progressing satisfactorily.

Mr. W. Roger's Mill is running, and test results are highly gratifying to the owners. Pettis & Co. are proposing to put additional stamps in their mill, and to push the development of their mines. Atchison & Co. have purchased a portion of the first leads found in the Pi-Ute district for \$16,000, and find upon sinking the claims they get better and better.

Tulahoma County—

The *Courier* says:—A 15-stamp mill of the best style has been erected near the main vein of the Sonora Gold Company, and the refuse quartz—the accumulation of years—is now being crushed. We are not informed as to the yield of the quartz, but the work is being pushed ahead. It is decidedly a pocket vein, and has been worked some twelve years by hand, only the richer portion of the rock being crushed by hand mortars.

Yuba County—

The *Appeal* says:—

The Pennsylvania Company, Brown's Valley, cleaned up on Saturday, after crushing seventy-eight tons of rock as it came promiscuously from the ledge. The yield was \$23 per ton. The ledge is from ten to twelve feet in width. The Rattlesnake Company (old Yuba) resumed work yesterday.

At Snartsville, we understand, several persons from Grass Valley are contemplating the erection of a mill and hoisting works for the purpose of working a ledge. The Blue Gravel claims at Smartsville are said to be paying largely at the present time. A number of persons are now engaged, at the latter place, in running a tunnel to prospect a gravel claim which is supposed to be immensely rich. It has been estimated that the tunnel will cost, when completed, nearly \$100,000.—*Grass Valley National*.

NEVADA.

Washoe—

The *Enterprise* says: The daily yield of the Kentucky mine is about thirty-five tons, the largest portion of which is worked at the New York and Manhattan mills, Washoe Valley. The richest of this ore, however, is carefully selected, and sacked up, for close working by the best processes known, and assays from \$800 to \$1,000 per ton. Some ore has just been struck at the 368-foot level that assays even better than that. Fifty men are now employed in and about this mine, the most of whom are engaged in sinking the main shaft still deeper. The width of the Comstock at this point is sixty-six feet, and the ledge dips east at an angle of forty-two degrees.

Reese River—

The Nye County *News* says: The mines of Twin River are opening up splendidly. A large force is at work upon the mill for the Murphy company, which is expected to be ready for operation about the first of October. With a road over the summit from Ophir Canyon, the travel and business of this section will be greatly increased. We learn that the Great Eastern claim, located at Grantsville, distant about ten miles from town, and in the south part of this (Union) district, has been sold to the Knickerhocker Nevada company, who have a fine 20-stamp mill in opera-

tinn, about three miles south of town. It is the intention of the Knickerbocker company to put on a large force to get out ore for the mill, which they will commence working as soon as they finish a quantity of custom rock now on hand. The first stage going west of the Wellington line, carried the first shipment of bullion from the Knickerbocker mill. The amount shipped was 166 pounds. Our bullion will now be sent direct to San Francisco, while heretofore it has gone the round about way of Austin.

From the *Reveille* we clip these items: We saw this morning at the assay office of J. R. Murphy, a novelty in this silver district in the shape of a copper bar. It weighed forty-three ounces, and was obtained from sixty ounces of pure red oxide of copper from the Troy ledge, Battle Mountain district. Work is now carried on upon two of the ledges belonging to the Empire & Silver State M. & C. Co. These are the Tellie, in Marshall Canon, and the Fairview, on Lander Hill. From the Tellie an exceedingly rich class of ore is taken, specimens of which assay at the rate of several thousand dollars per ton, and the entire ledge pays one hundred dollars and upwards. The hoisting apparatus of the Buel North Star is completed, and the work on the mine will be resumed. A whin is being erected on the Asteroid. The incline is 180 feet deep. Indians are becoming insolent in the Hut Creek and Philadelphia districts. The depth of the incline on the Providential is 340 feet. The Savage is constantly at work. In the Morgan and Muncey, a large frame building has been erected over the mouth of the main incline and the preparations for resuming work are being pushed ahead with great vigor. The original incline, which followed the curves and undulations of the vein, has been put in shape for easy and economical work. The incline is substantially timbered on its sides and roof to its greatest depth of 300 feet. The machinery will be completed and put in operation in the course of next week. The incline in the Stephen A. Douglas, has reached the depth of 230 feet. At that point a break occurred in the ledge, and a level is being driven into the hills to recover it.

Esmeralda—

The Union of the 14th inst., gives the following items: The Pahdet District will soon create a lively stir in mining circles. Yesterday A. J. Rhodes and a son of Dr. Fitzhugh arrived in town with several mules packed with some of the finest ore we ever had the pleasure to behold. It is to be sent to San Francisco for reduction. The ore is of a greenish color, with streaks of blue sulphurets running through it and particles of bright yellow gold sparkling all over it. The Pahdet district is situated thirty-five miles due east of Aurora. On last Saturday a deed was placed on file in this county signed by Frederick Collier, President pro tem of the Real Del Monte Company, conveying to W. C. Ralston the two fine mills belonging to the company in this district. The condition mentioned in the deed is \$100,000. A grand uprising of the Indians is feared in Silver Peak District.

The shaft at the mouth of the Discovery tunnel, of the Philadelphia company, had reached a depth of a hundred and twenty-four feet, and was still going down at the rate of over thirty inches every twenty-four hours. The engine and most of the machinery are already on the ground, and will be put up as soon as possible.

Humboldt—

Correspondent of the *Register*, at Dun Glen, July 2d, says: The Monroe company intend to erect a mill. The Humboldt River G. & S. M. Co. has several men at work on the first south extension of the Monroe, where the ledge is found, with good prospects. The same company employs eight or ten men in the vicinity of Barbersville, on various ledges. In McCann Canon are six men at work on the Pauline. Shaft fifty feet down—ledge four feet wide. Ore assays \$800—have had some worked. The Glen is taking out splendid ore. The Humboldt River Company has a considerable force of men at work. The Ophir lode, on the Empire series, presents a very favorable appearance. The old shaft has been sunk to connect with the main tunnel, which gives good ventilation to the mine. The aggregate of shaft, tunnel and drifts in this vein is about 500 feet. Essex tunnel is now in 300 feet. The Tellulab will soon resume operations.

Black Rock—

The Marysville *Appeal* says: Accounts from the Black Rock mining district continue favorable. The *Sage Brush* mentions the working of ore at Dall's mill, which was taken from the Eureka lode at a depth of 50 feet, that yielded a fraction under \$44 to the ton. It seems to be established to the satisfaction of those interested, the lodes of that vicinity may be profitably worked.

Pahranaagat—

The Gold Hill *News* says: Colonel U. E. Allen writes from Silver Canon, Pahranaagat, June 24th, "that the mines here are richer

than any yet discovered in this State, although but little prospecting has been done up to the present time. Yet mark my words, that in one year or less, this district will roll out silver bricks in quantities sufficient to shame the Comstock in her palmiest days."

ARIZONA.

The *Alta's* correspondent at Prescott, says, May 25th: The Galeña lode is a large, fine looking vein, prospecting and opening well. Eight men are at work here in two shafts, from which about seventy tons of ore have been taken up to date (shafts about fifteen feet deep only). The Galeña is situated on the mountains about two miles north of the mill. The Big Bug, situated about one half mile from the mill, is also on the mountains, and on the boundary separating the two classes of veins. Some beautiful ores of a singular character are taken from this mine. The shaft is some fifty feet deep. About fifty tons of ore, some of it very rich, have been taken out this year. Of the Eugene, I can say nothing now, further than that it seems to be of enormous size, and that it is, or can be, worked with great facility, being only one half mile from the mill, and on nearly the same level. Only the surface ores will be available now, of which there are a great abundance. Mr. Rogers is working a small, but rich vein, about a mile from the mill. Woolsey's water mill, five stamper, will be running in a week or so, crushing rock from vein similar to the Jackson. On Lynx creek, (Walker's), Tyson is opening the Gencho vein. They are now down only about twenty feet. The ore is good, and I am told is still improving. On the Occidental we hear to day that they crashed in their pony 2-stamp mill, three tons of ore which yielded \$1,100. This is a very small vein, but is reported to be very rich and to be widening out. A few hundred yards above Berger's mill, four men, who made a flume to bring the water to a little gulch, washed \$300 last week. There are a good many such places.

Same, under date of June 10th, has the following: We may surely say there is a continuous range of gold bearing rock from near Wickenburg to ten miles north of Prescott, and from the Lower Hassimipa to the Agua Frio; which would embrace an area of at least 100 square miles. The containing rock is nearly the same in this entire section. Some fine ores were lately brought in from a new locality, directly on the Agua Frio, about thirty miles in an air line south of Prescott. There are copper ores, which prospect well for gold. The discoverers have gone out again to prospect for placers. This is a slow country to get around in, unless a man has a big pile to pay his way. I have, however, seen enough to satisfy me that this is either a huge country or an unparalleled hulk. Without time and money not much can be done; still my opinion is very favorable.

OREGON.

A letter from the North John Day mines to the *Dalies Mountaineer*, of July 16th, says: Burnt river and Olive creek draw their head waters from the same mountain chain—the first flowing to the east into Snake river; the latter being the John Day. All about the heads of these streams are rich and very extensive gold washings, as yet but partially developed. On Greenhorn gulch, an affluent of Burnt river, the depth is from six to fifteen feet, and on Rose and Quartz gulches, which empty into Olive creek, it varies from ten to fifty feet. Prospects are obtained from top to bottom, and seventy-five cents to the pan has been found thirty feet from the bed rock on Quartz gulch. There are about one hundred and fifty miners on the head waters of Burnt river; and twice as many more on Olive creek and its gulches. Granite creek has about one hundred and twenty-five operative miners. There are two or three small companies working on Clear creek, below the mouth of Bull's Run. Olive creek diggings are fully as good as those in the Boise Basin, and even more extensive. The chance to get hold of good ground is incomparably better.

A reliable gentleman who has just returned from the Middle Fork mines, expresses the opinion that with another season these mines will give employment to from two or three thousand men. The fact is established, that a good mining district has been discovered. The placer diggings are extensive. The Columbia river was rapidly rising for the third time this season.

IDAHO.

The *World* of June 30th, says the emigration from the Boise Basin to Montana is again on the increase, the giving out of the water in some localities having set the miners free to go "prospecting." It speaks of the folly of thus leaving a "good camp" for an uncertainty, and quotes from the letter of an Idaho miner in Elk City: "Miners who intend coming up here to work for wages, will do better to try Placerville, Pioneer City, Idaho City, or all of these places first, and if they can get from four to five dollars per day, they had better stay and work in preference to traveling

over a hard road all summer, and running the risk of getting no employment at all.

The *Olyve Ardenche* of July 7th has these items: The Cosmos company have their whin completed at the original shaft on the Silver Legion; also a bulging house near the center shaft at the head of Wade's gulch. They are taking out a great deal of rich ore at the center shaft, and are increasing the force of laborers as fast as they can be used to advantage. The War Eagle Silver Mining company have let a contract to sink a shaft on their ledge—the Revenue. Twelve thousand dollars in bullion was the result of the last cleanup by Messrs. Moore and Fogus. The Poorman company have several men employed on the road from their works.

A dispatch dated July 1st, from the volunteers who went out to fight Indians, announced that the party (of 32) had fought 250 well mounted Indians for two days and one night, and were in a very critical condition. Six hours after the receipt of the dispatch every citizen that could be armed and mounted was en route for the battle ground, fifty miles from Silver City.

Same paper has seen a specimen of ore from the Sonora ledge, Altara county. It contains several flakes of pure gold, as thick as common window-glass, two inches long by one inch wide. We quote: "There is only one seam of this pure stuff. The ledge is said to be well defined and seven feet wide, and all the ore worth \$60 per ton. We also were shown some specimens of silver ore from the Atlanta ledge, in the same district. It looks very rich and is from a big vein. Col. Preston is owner in each of the above ledges.

MONTANA.

In White's gulch, a short time since, at No. 2, below Discovery, John Bristol cleaned up from a run of ten hours, with four hands \$1,265. A 20-stamp mill is to be erected by John Rogers in French gulch. Miner's wages in Alder gulch are still \$6 per day. There was a rush for the new diggings at Harmony gulch a few days ago. The Missouri is very high. Passengers and freight continue to arrive at Fort Benton. The market will be glutted with goods of all kinds, and those who can buy to hold till spring, will undoubtedly coin money.

COLORADO.

From the *Journal* of June 26th we clip the following items: A lot of Rochdale ore is to be tested at Keith's. If satisfactory, the company will put up a Keith furnace and go to work. The Bertola mills are soon to be started. Some parties are sinking a shaft on a new lode in the lower edge of town, called Vanderbilt. At thirty-five feet in depth they have a crevice about three feet wide, eight inches of which is lustrous ore, assaying richly in silver and gold. The Consolidated Gregory mine is being got into shape now with rapidity. The main shaft is now finished to a depth of 260 feet. The levels have been started, one of which is in seventy feet. Considerable ore is being taken out. The Osceola mill is to be started as on rock from the Quincy lode. A quarter of a pound of ore from the Belmont produced forty-eight cents worth of silver, over a blacksmith's forge. Experiments with Prof. Wertz's sodium amalgam are making here, and the indications are that its use will be found highly advantageous. We are told that the yield of the Narragansett mill was increased in its last week's run by its use more than thirty per cent. A wagon load of ore from the Texas lode produced 23½ pennyweights of gold. Mr. Du Bois has his new mill all enclosed, the furnace finished, and the stack more than half finished. At the Keith mill they are again heating up. The B. H. company have begun to excavate above their new mill for a Keith Furnace addition. The furnace of the Hope company is running steadily, and we believe giving satisfaction. Plummer's mill will be started as soon as the boiler arrives. The Chicago company are setting up one of Fuller's lead machines. The South Park Mining and Exploring company has purchased 2,000 feet on the De Marcy lode, and raised a fund for a working capital. They will go to work at once.

Editorial of same paper says: We do not think there is a prospect of more stamp mills starting. It is now known that they are worse than nothing, because they save so little of the value of the ores while rapidly exhausting the mines. We must depend on some other process. * * The Sierra Madre works, which contemplate the smelting of the gold, silver, and copper into a mat, will ere long be in operation. The Ford Mining company is rapidly completing smelting works on the same plan as Lyon's, we believe, only of smaller capacity. Each of these has a different machine for cutting ores, of which, from what we have seen, we are inclined to give the preference to Colom's, adopted by Mr. Ford. The Clark-Gardner company is also erecting smelting works after the Lyon pattern. Furnaces are being erected by at least three companies in the Georgetown and Snake River silver mines. Experiments are making in Nevada

by Beverly & Company, and we think the King company is looking in the same direction. It is possible that both of these latter are now building works. All of these it is our belief will be worked to profit when once thoroughly going, especially if provisions and everything else in price as seems probable, nay, certain. The Consolidated Gregory, the Corydon, the Benton and the Sisty, can still pay expenses, and will not stop their mills.

BETTER THAN A GOLD MINE.—Out back of the Mission Dolores in this city, and just above the Jewish cemetery, is an isolated hill which is composed of soft red rock, the material most used in macadamizing the streets of San Francisco. This hill is being cut down for the material, and yields its owner \$400 per month upon a contract with a second party, who, in turn, makes \$75 per day from it, getting fifty cents a load for every cart-load hauled away. There is enough of material left in the hill to last for years yet.

How to MELT STEEL WITH AN ORDINARY FIRE.—First heat a piece of steel red-hot, in the fire; then take it up with a pair of pincers, and in the other hand hold a stick of sulphur, which you apply to the steel. As soon as they touch each other, the steel will flow as if it were a liquid.

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San Francisco:

Saturday Morning, July 21, 1866.

GOLD SAVING EXPERIMENTS IN AUSTRALIA.

The great loss of fine gold in the ordinary manipulations of gold ores, is fully recognized by the Australian gold miners, where experiments have pretty conclusively proven that from twenty to twenty-five per cent. of all the gold in the ore is lost, without taking into account the loss from imperfect working of the sulphurets. The current of water introduced into the battery, and sent through the various contrivances for bringing the gold into contact with the mercury, in the process of amalgamation, keeps a large portion of the very fine gold constantly afloat, nearly all of which passes away with the water and pulp.

In numerous experiments made with ore from Steiglitz, Ballarat and the Ovens, by Rev. John J. Bleasdale and Count John Dembinski, and several times repeated, to avoid mistakes, the samples were taken, crushed and divided into equal parts, one-half of which was treated raw, in the usual manner—stamped, ground in Chile mills or pans, and subsequently treated by an amalgamation process, not described in the authority before us; while the other half was roasted and submitted to the chlorine process.

The mean of four experiments showed an increase by the chlorine process of nearly *thirty-eight per cent.* over the ordinary working process, with the aid of mercury.

In order to still further test the loss by working process, other experiments were performed, by mixing known amounts of gold with ordinary sea sand, as follows:

Five grains of gold, made chemically fine, by precipitation, were added to an equal weight of gold in a very fine state of mechanical separation; the ten grains so prepared were mixed with 10,000 grains of sea-sand, and the whole ground to a fine pulp. Several lots were thus prepared, each containing a known quantity of gold. Three lots were then submitted, the one to the ordinary process, and the other to the chlorine process.

The result of one of these experiments, given as an average, was the saving of 3.21 grains by mercury; and 4.62 by the use of chlorine. The difference observable in the two series of experiments is of course attributable to the presence of sulphurets in the one, and their absence in the other.

We have collected the above from a lengthy paper read by one of the parties mentioned, Rev. J. J. Bleasdale, before the Royal Society of Victoria, Australia; the entire series of experiments is but an accumulative amount of evidence of the wasteful process of gold working, usually employed in all gold mining regions.

DROWNED.—Scott Knox, an interesting lad of nine years, was drowned in the Sacramento river, near the Sacramento City Gas Works, on Thursday of last week. While bathing with other boys, he got beyond his depth, and being unable to swim, was carried down by the strong current and lost. His body was recovered on Saturday, five miles below the city. The funeral took place on Sunday. His father, A. C. Knox, Esq., corresponding agent for this journal, was suddenly called by telegraph from Nevada City, to his desolated home. The afflicted parents will receive the heartfelt sympathy of all who knew the departed boy.

SULPHURETS AND THEIR VALUE.

An increasing degree of interest is beginning to be felt in saving and working sulphurets. There is no doubt but that a large portion of the gold contained in our quartz veins has heretofore been suffered to run to waste in the sulphurets, with which it is so closely combined as to defy all ordinary mechanical means for separating it. A few of our mills have for several years adopted some rude process for separating the sulphurets from this great mass of the pulp, and many have saved their tailings by running them into large reservoirs or heaps for future treatment.

Of late quite a number have introduced "separators," chiefly such as are furnished by parties who advertise their machines in this paper. These machines are cheap, simple in their construction and working, and quite effective in separating the sulphurets from the mass of the pulp, which without some such contrivance must be allowed to run to waste.

Assays of sulphurets show a yield varying from \$50 to \$500, and not unfrequently over \$1,000 to the ton. The quantity saved by the separators from the mass of rock crushed varies with the character of the ores—some veins yielding not more than one ton of sulphurets in twenty tons of ore crushed; others yielding as high as one ton of the sulphurets in every eight or ten tons of rock. Of course the sulphurets, as saved, contain more or less of the rock—silex, from fifteen to thirty or fifty per cent.; it is not necessary or desirable even that they should contain less than about thirty per cent. of silex, as the presence of about that quantity greatly facilitates the process of desulphurizing, or "roasting," as it is more commonly expressed.

The sulphurets from any given vein usually run very regular in their assay—the mean of three or four assays being generally considered to determine pretty conclusively their permanent value. Sulphurets assaying \$100 per ton are worth in this city for shipment, about \$50; those assaying \$200 are worth about \$125 per ton. The value of sulphurets assaying a higher rate than \$200 would depend much on the more or less refractory nature of the ore, which would involve a greater or lesser percentage of loss in working it.

During the past week a subscriber to this paper, who owns a quartz mill in the northern part of the State, and who has been working his mine for several years for free gold only, saving nothing of the refuse but his blanket washings, called upon us to have some of his sulphurets assayed, having noticed that we had advised quartz mill owners to pay more attention to that portion of their ore. The result of the assay was \$1,103 to the ton of sulphurets entirely free from sand. Our friend was perfectly astonished at the result, and informed us that by the aid of the machinery recently devised for that purpose, he could save a ton per day of sulphurets, nearly as clean as the sample he had placed in our hands for assay. He has thus been running away more gold than he has saved for the two or three years past! He will hereafter profit by the lesson he has learned by reading the **Mining and Scientific Press**. This, of course, is an exceptional case; sulphurets usually assaying from \$75 to \$150 to the ton. There is no trouble in saving them, and no mill should be without its concentrators.

With regard to working sulphurets, the process generally adopted, at present, is that known as the "chlorine process." The various methods of treating sulphurets are discussed at considerable length in the **Mining and Scientific Press** for December 9th and 23d, 1865. The subject is too extensive for any special consideration at this time, although we shall endeavor to speak more fully of it at an early day.

A cheaper, more practical and more thorough mode of treating them than any now employed, is at present a very desirable object to the mining interests of California. Experiments are now in progress in this direction, which we feel quite confident will soon result in something practical and important. When

anything of special interest is arrived at in this direction, we shall lose no time in laying it before our readers.

SULPHURETS IN CEMENT MINES.

It has recently been discovered that many of our gravel cement mines also contain quite a notable amount of sulphurets, and several of the mills in the neighborhood of You Bet, Nevada County, are putting in appliances for saving them. We are not informed with regard to the character of these appliances; but from what we have heard, we should judge them to be quite inferior to the machinery now being manufactured for that especial purpose in this city.

Without any intention to underrate the actual value of the recent interesting discovery, that paying sulphurets can be collected from the mills in various parts of the State engaged in crushing cement, we must still persist, notwithstanding we have been called to account for so doing, in assuring our readers that the statements in some of the newspapers—the *Nevada Transcript* in particular—are altogether as have yet come to light. We notice that even the contemporaries of that paper are calling it to account in this relation. Nothing is gained in mining matters by overruling such interests. Capitalists have been so often deceived of late in such matters that they are now becoming over-cautious; and as we desire their aid in the development of the mines, we should endeavor to keep as near to facts as it is possible to do in matters of so much uncertainty as those pertaining to mining.

We have been assured, during the past week, by several intelligent, practical cement miners from the vicinity of You Bet, that our statements with regard to sulphurets in those mines were as near the truth as it is possible to arrive at the present time.

Our advice to both quartz and cement miners is, that they should first take steps to test the value of their sulphurets, by careful assays, and whenever they prove valuable, that immediate measures should be taken to save them. They will readily command their full value, either at Nevada, Grass Valley, or in this city. The probability is that there will be found quite as much difference in the quantity and quality of sulphurets in the cement mines as in quartz mines. The value of these sulphurets can be readily ascertained. The machinery for saving them is within the reach of all, and concentrators may be obtained for from \$200 to \$300.

BUSINESS COLLEGES.—The time has come when a business education is indispensable. A classical education fits a man for the study of a profession. It cultivates and polishes the mind, and wears off the rough edges of a man's character, but it sends him into the world as ignorant of business as a babe. What he lacks, however, is a business education, and then he can make his mark. This want has long been felt by business men and educators, and it is now met by the establishment of Business Colleges. These new institutions have been improved from time to time, until they are now so conducted that the *theory and practice* of business life are united; and the student gains the advantages of both. Young men can enter them from the workshop, the counting house and the farm without previous training; and no young man should fail of spending a few months at one of them. He can thus fit himself for a successful business life. By the exercise of *modesty*, perseverance and energy, he can soon leave his uneducated fellows far in the rear. In connection with these thoughts we take pleasure in recommending the Pacific Business College, situated at 751 Market street. Students are received at all seasons of the year, and each one receives the special and personal attention of the teachers; and on the completion of his studies receives a diploma. Mr. E. P. Heald is President of this association. Among the directors, lecturers and instructors will be found some of our most worthy citizens.

The town of Bristol, in Vermont, has a pill-box factory which employs twenty workmen, and uses up 300 cords of white hick a year.

SUBMARINE BLASTING.

The fact has already been noticed that, in the absence of any aid from Congress, the merchants of this city have undertaken to remove the two snoken rocks in this harbor, known as Rincon and Blossom rocks; both in the direct track of vessels, and constituting serious obstructions to navigation. The first is about 100 feet in length by 50 in breadth, and within about twelve feet of the surface; we are not acquainted with the dimensions of the other.

The work is being done under the direction of T. D. Parkinson. No drilling is required, but the charge of powder is placed upon the surface of the rock, enclosed in an air tight can, where it is fired by means of an insulated wire connected with a galvanic battery upon the shore. The effect is produced by the force of the explosion being communicated to the surface of the rock by the pressure of the superincumbent water, instead of by confining it with tamping, as in the case of drilling.

Three blasts have already been fired upon Rincon Rock. The first consisted of 125 lbs. of California powder, which was placed upon a projecting point of the rock. The effect of the explosion was to throw up a huge column of water, in the shape of an elongated cone, to the height of about seventy feet, and break up the surface of the rock for many feet around to such an extent as to increase the depth of water over the spot ten or twelve feet. The pieces were mostly thrown off into deep water, where they can do no harm. The rock is a hard slate, and not very easy to blast.

The first application of electricity to firing submarine charges was made by Gen. Pesley, in 1839, at Spithead, England. It was employed in removing from the channel the wreck of the Royal George.

The effect of the explosion of gunpowder, under the above conditions, is very much like a blow from a huge hammer. The force, exerted at the instant of explosion, is equivalent to about six tons per square inch upon the surface exposed to the force. Count Rumford estimates the force of gunpowder at about 10,000 atmospheres. The crushing effect of such a blow exerted over a space, say of twenty-five to thirty square feet, must be immense; and it is no great matter of astonishment that the hard rock should crumble beneath the blow, as Rincon Rock is now wasting away under the repeated blows inflicted upon it by Mr. Parkinson.

After that rock is demolished, or put out of harm's way, Mr. P. will commence the same kind of attack upon Blossom Rock, near Fort Alcatraz. Nitro-glycerine would exert a far more destructive effect than gunpowder; but since the late terrible calamity on Montgomery street, the city authorities have refused to allow it to be employed anywhere within their jurisdiction.

BRUCKNER'S ROASTING FURNACE.—The principle of the application of revolving cylinders to roasting ores appears to be reaching a decided success. We understand that one of Bruckner's furnaces, which has recently been put up at the Central mill, near Virginia City, has been in operation some ten days on the first class ore from the Cometock ledge, and with very favorable results. Mr. George Attwood, Superintendent of the Ophir Reduction Works and Central mill, writes to Mr. Bruckner, as follows: "Compared with the old reverberatory furnaces now in use, it consumes less wood, and saves one-half the labor. It also roasts in a shorter space of time. It desulphurizes remarkably well, and chloridizes very fairly."

We don't know of anything further that could be asked for to prove this furnace a complete success, except a continuance to do just what it is now reported to be doing, for a reasonable length of time. We shall watch anxiously and confidently for such continuance of service. The experiment could not have been entrusted to better hands than Mr. Attwood's. The success of this furnace will furnish a very satisfactory solution to the problem for a cheap and successful working of auriferous sulphurets, applicable on a small scale, and to almost any locality.

NEW PATENTS.

Following is a list of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, together with other issues which we deem of local interest to readers on this side of the Continent. Most of these claims have been secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

TATTING SHUTTLE.—A. Dobrowsky, Shasta, Cal.:

I claim as a new article of manufacture a tating shuttle, composed of two sides, A, A, center-piece, B, and pin, C, extending beyond the sides, A, A, at one or both ends, as shown and described.

WATER-WHEEL.—Thomas McAnley, San Francisco, Cal.:

In combination with the water-wheel described, I claim the discharge-nozzle, N, arranged outside of the wheel and the dash-board D, for joint operation, substantially as described.

HITCHING-POST.—Valentino Ward, San Francisco, Cal.:

I claim, 1st, The post or shell, A, sunk underneath a sidewalk or pavement, having an extension shaft or bar, P, to be drawn from or inserted in said post or shell at will, substantially as described and for the purpose set forth.

2d, The spring, E, or its equivalent, when arranged as above described, or by weights and pulleys, when a large post is desired, substantially as described and for the purpose set forth.

FASTENING FOR FRUIT-BOXES.—Henry T. Barker, Napa, Cal.:

I claim the arrangement shown and described, consisting of the headed catch at the slotted end of the lid and the threaded bolt at the other end upon which the lid is screwed by the nut.

OTHER PATENTS OF GENERAL INTEREST RECENTLY ISSUED.

ROCK DRILL.—John Greives, Brooklyn, N. Y.:

I claim the drill constructed of a central polygonal rod with cutting point and angular sectional cutters bolted to the sides of said rod, substantially as herein specified.

LAMP CHIMNEY.—H. C. Appleby, Conneaut, Ohio:

This invention consists in constructing a glass chimney for lamps with corrugations flutings or the like, running spirally around the chimney, whereby the chimney will have a better capacity for expansion, and therefore be less liable to break than ordinary glass chimneys.

TREATING WOOL.—P. S. Haines, Newburgh, N. Y.:

The object of this invention is to facilitate the picking and carding of wool, and also to facilitate its treatment or disintegration by any other machines as well as by means of pickers and carding machines.

DETACHING BOATS FROM THEIR DAVITS.—Thomas Huntington, New Rochelle, N. Y.:

This is an improved means for detaching ship's boats from their davits by the simultaneous detachment of the books of both the front and rear tackle blocks from the boat, so that the latter may be set free upon the water without the liability of being swamped or capized in a swell or sea.

MACHINE FOR PICKING COTTON.—John Griffin, Louisville, Ky.:

The inventor of this machine for picking cotton has already secured several patents for the same object. In this one he secures more power in the picking apparatus; the device is more readily manipulated, so that the work will be less, and prevent the choking or clogging of the cotton in the tube.

PATENTS can be obtained for citizens on this Coast, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents.

CORRETT'S ORE ROASTING APPARATUS, which we noticed at length in our issue of July 7th, is attracting considerable attention. Most parties who have examined the working model at Mr. Linforth's office, corner of Front and Market streets, have expressed a favorable opinion with regard to its merits. No one interested in ores which require a roasting process, should fail to examine this furnace.

TEA AND COFFEE IN SAN FRANCISCO.—The duties paid at this port on tea during the first six months of the present year were \$218,702; duties paid on coffee for the same time, \$262,572—total for these two luxuries, \$481,274 for six months, a tax for duties alone equal to two dollars per annum for every woman and child in the State.

HUNGERFORD'S IMPROVED CONCENTRATOR,

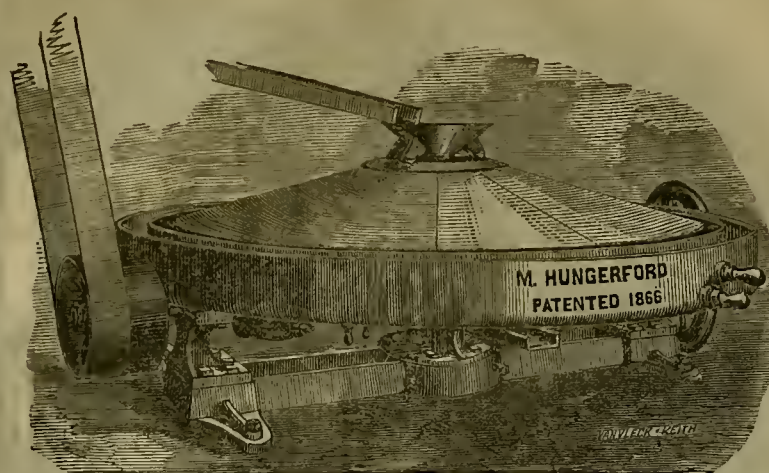


FIG. 1.

For Saving Gold, Sulphurets, Quicksilver, Etc.

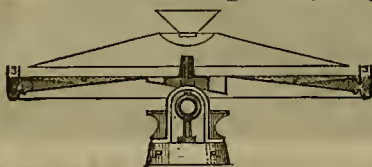


FIG. 2.

have been tried, and many abandoned; all of which have been unable, so far, to attain a profitable separation, and meet the requirement of the mining interest, so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

The separating or concentrating action is obtained by centrifugal force and gravitation; the pulp being preserved by water in the proper condition for the operation, and the pan so constructed, mechanically, as to allow the centrifugal force and gravity to expend themselves to the best advantage in producing the separation, as well as to make the machine simple, compact, and easily kept in order.

Fig. No. 1 is a perspective view of the Concentrator while in operation, showing the general arrangement. Fig. No. 2 is a section through the centre of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

Its operation is as follows: The pulp flows from the spout through the filter into the bowl at the top, from which it is distributed equally over the convex cover into the pan near its outer edge. The lightest sand is at once carried off with the overflowing water through the centre opening, and the sulphurets are allowed, from the motion given to the machine, to gravitate to the bottom toward the outer edge, forming an embankment all around the pan, as represented at 1, 1, Fig. 2. The lighter particles of the sand arrange themselves on the top at 2, 2, Fig. 2, from which they are being constantly washed away with the water flowing through the central opening. The sulphurets are, by the centrifugal motion of the machine, made to pass through small openings at the bottom, at intervals of a few inches around the circumference, through the inner wall of the pan to the circular trough 3, 3, Fig. 2, where they come in contact with the mercury at the bottom, depositing the free metal, from which it is drawn at pleasure by an opening in the bottom, and the sulphurets, in the order of their density, by opening in the sides.

It will be observed that the sulphurets in the trough 3, 3, are maintained at the same elevation as the sulphurets and overlying sand in the body of the pan. It will be further observed, that by no possible means can the sand in the latter pass to the former in such quantities as to form any considerable percentage of the amount saved. The advantages of this improved pan are continuous action, requiring no attention except to remove the receiving vessels as fast as they are filled from the openings shown on the right of Fig. 2, simplicity in construction, and durability and cheapness of cost.

The pan derives its motion from two eccentrics secured on a horizontal shaft passing across and below the centre of the pan and working between two pairs of adjustable wooden guide blocks or bearings. The eccentrics are so made as to bear equally on the wooden guide blocks in all positions while in motion; giving to the pan the most desirable motion for its purpose, and doing away with all complexity of rods, cranks, wooden frame, etc.

These pans are now being introduced into the best mills in the country. Reference to parties who have tested them can be had by applying to the manufacturers.

Those interested in mining, and who call at the Miners' Foundry to see the one which is there in operation, will have no reason to regret their visit.

San Francisco, June, 1866.

[3x13 in.]

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GEORGE E. BROWN,

(Late Assistant Examiner in the U. S. Patent Office.)

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Prepared by the Editor of the San Francisco Directory, State Register, etc.

In announcing the above enterprise, the compiler deems it unnecessary to refer more particularly to its contents. He would state, however, that it shall be his aim to present a work of practical utility to all who are interested in the development of the resources of the Pacific coast. For the fulfillment of this, he respectfully refers to the different compilations issued under his charge for the past ten years.

HENRY G. LANGLEY, Publisher.

612 Clay street, San Francisco.

San Francisco, April 19, 1866.

This Press is a large, sixteen page paper, and is truly a valuable assistant to the mining interests of the Pacific Coast.—[Nyo County News.]

ESTABLISHED

[MAY, 1866.]

VOLUME THIRTEEN

—OF THE—

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COMMENCING JULY, 1866.

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2v12

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It is stated that the expense incurred by Canada, in consequence of the Fenian invasion, up to this time, may be estimated at a sum not far short of \$2,500,000, and that sum will be largely increased before the matter subsides into quietness.

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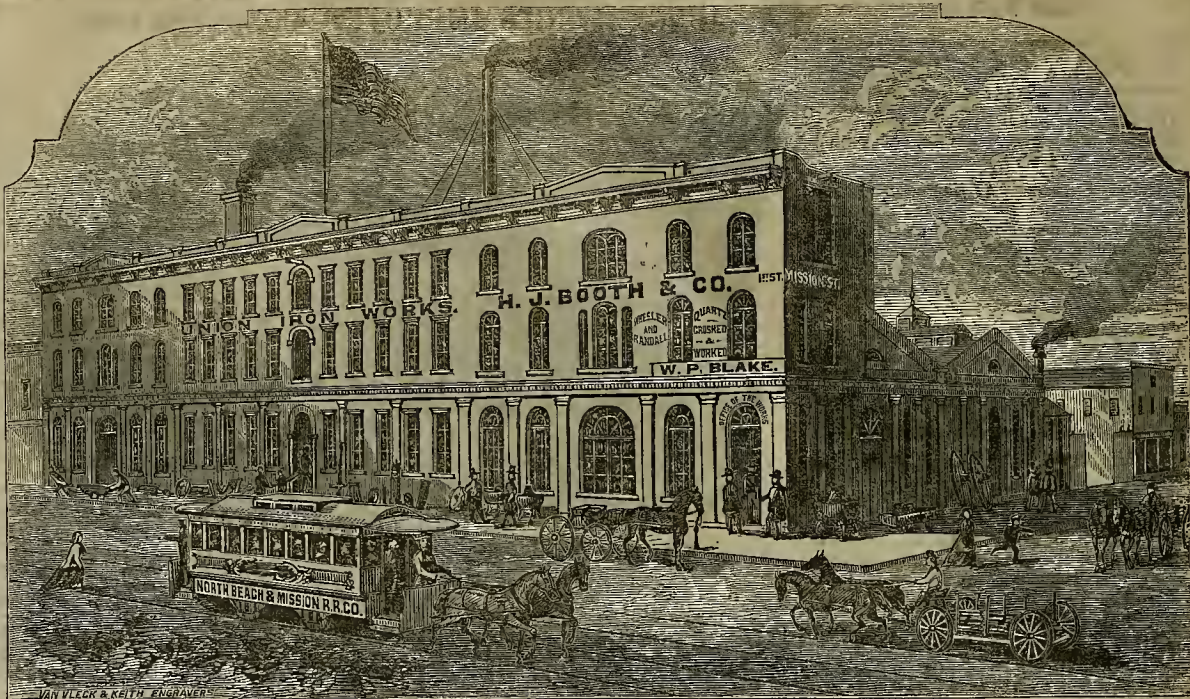
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MADE.
All Boilers guaranteed and
tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.

All kinds of Sheet Iron and
Water Pipe, Coal Oil
Stills, Wrought Iron
Worms, etc., etc.
Manufactured to Order.
Old Boilers Repaired
D. CAMERON.



JAMES MACKEN,
COPPERSMITH,
No. 236 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best
manner. Particular attention paid to Steamboat, Sugar
House and Distillery work.

Repairing promptly and neatly attended to. 18v11

M. REYNOLDS,
COPPERSMITH
—AND—
SHEET IRON WORKER,
Market street, near Front, San Francisco.

ALL KINDS OF COOKING UTENSILS
turned and made to order. 16v12-3m

UNION IRON WORKS, Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired
with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old cylinders, manufactured
to order.
Front Street, between N and O streets,
14v11 **SACRAMENTO CITY**

Miners' Foundry —AND— MACHINE WORKS.

First St., between Howard and Folsom Streets,
SAN FRANCISCO.

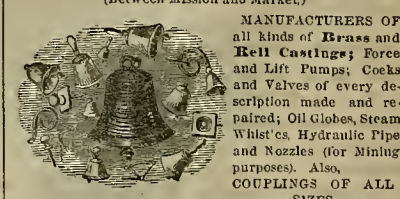
EVERY description of Iron and Brass Machinery, the
BEST and MOST ECONOMICAL, manufactured in the
State of California, will be furnished with dispatch at the
MINERS' FOUNDRY AND MACHINE WORKS, such as

Steam Engines and Boilers, Flour, Saw and Quartz Mills,
Machinery, Mining Pumps, Amalgamators,
Retorts, Etc., Etc.

Particular attention will be given to the manufacture of
Machinery in Sections designed for places of difficult ac-
cess. Various models of Quartz Crushers, Amalgamators
and Water Wheels—some in operation and on exhibition.
Persons desiring to test their ores practically, in small
quantities, will be afforded ample facilities, free or cost.
All parties desiring accurate and highly finished drawings
and superior Machinery, at most reasonable rates, are cordially
invited to call before contracting elsewhere.

HOWLAND, ANGEL & KING

M. GREENBERG, W. H. MOORE,
GREENBERG & MOORE,
Eagle Brass Foundry,
No. 43 First street, San Francisco,
(Between Mission and Market.)



MANUFACTURERS OF
all kinds of Brass and
Bell Castings; Force
and Lift Pumps; Coeks
and Valves of every de-
scription made and re-
paired; Oil Globes, Steam
Whistles, Hydraulic Pipe
and Nozzles (for Mining
purposes). Also,
COUPLINGS OF ALL
SIZES.

Particular attention paid to Hydraulic Pipes and
Nozzles; also, to Ship Work of all descriptions. All orders
from the interior will be attended to with promptness and
dispatch. 25v12-3m

GEORGE T. PRACY,
MACHINE WORKS,
Nos 109 and 111 Fremont street, near corner of Mission,
OPPOSITE MECHANICS' MILL,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND
REPAIRED.

Special attention paid to Repairing. 25v12-3m

Familiar Science.

EVERY body who has had opportunities of swimming in sea water and in fresh water, knows that he can swim more easily, and that it is much easier to float in the first than in the last. But it is not every boy that can tell the reason why. It is because salt water is heavier than fresh water. If we dissolve any kind of salts in fresh water, it becomes heavier than before. Hence it is that the water of the Dead Sea in the Holy Land, which is almost saturated with salts of various kinds, is so heavy that it is said to be impossible for any man to sink in it. Almost every boy in the country has witnessed the operation of making brine far pickles. It is usual to put an egg in a vessel of fresh water, in which, if it be a sound one, it will sink to the bottom. Then salt is stirred in until the egg rises to the surface, when the brine is supposed to be strong enough. The egg rises because the quantity of water which would fill the egg, after the salt has been added, has become heavier than the egg, which, being lighter must float. If we put oil in a vessel with water, the oil will float on top, because it has less specific gravity than the water. Now fresh water can be made to float on salt water for a time, until the salt from below has time to diffuse itself through it, and make all parts of the water equally salt. At the same time an egg may be made to float partly in the salt and partly in the fresh water, that is to say, be suspended at the point where the fresh water touches the salt.

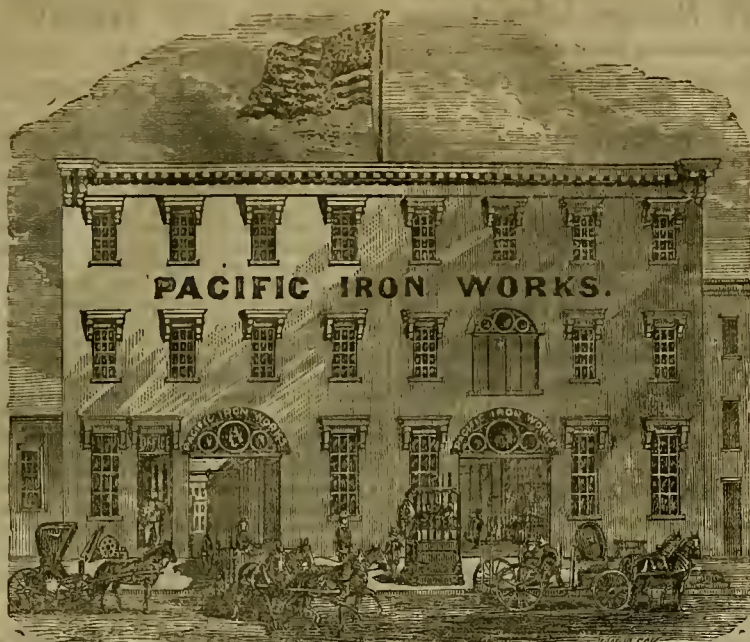
This may be done as follows: Take any deep glass vessel; a glass jar, such as is used for confectionery, or for putting up fruit, will be very convenient, and fill it half full of water; put in an egg, and it will go to the bottom. Now make a strong brine, as above described, then take a glass tube that will reach to the bottom of the glass vessel used, and pour the brine gently into this tube, so that it will run down to the bottom of the vessel; as you continue to pour, the egg will gradually rise, being lifted up in connection with the fresh water, until the vessel is full; you will then have the egg suspended midway in the vessel, or at the line of junction between the fresh and salt water.

TO MAKE COLORED CRYSTALS OF ALUM.—Method of proceeding.—Hot saturated solutions of alum are mixed with various coloring substances, and are then submitted to crystallization. Colors to be used:—The addition of powdered turmeric produces transparent yellow crystals. Powdered litmus produces transparent red crystals. Logwood makes them purple, and cochineal writing ink black. The more troubled the solution looks, the finer are the crystals it affords, so that filtration is not necessary. These colored crystals are more easily destroyed than those of pure alum. The best way to preserve them is to support them under a bell glass, which rests in a capsule that contains a little water. This arrangement produces a moist atmosphere, which is not only useful in this case, but also for the preservation of crystals of sulphate of copper, and various other salts whose colors are dependent upon their water of crystallization.

The crystallization of alum is promoted by hanging in its solution substances with rough surfaces, such as coke, cotton, porous wood and pumice stone.

INSTANTANEOUS CRYSTALLIZATION.—A Curious Example of the Production of heat by the Conversion of a Liquid into a Solid.—Into two ounces of boiling water, put as much sulphate of soda as it will dissolve (about three ounces). Pour as much of this saturated solution, when boiling hot, into a phial, as will nearly, but not quite, fill it; cork the phial closely, and let it stand to cool. When cold the solution is still fluid; but the instant you draw the cork a very beautiful but confused crystallization of the whole mass immediately takes place; and at the same time, so much heat is evolved as to make the phial warm.

The explanation of the experiment is this: Water dissolves more sulphate of soda when hot than when cold; and cold water dissolves more in proportion as the pressure of the atmosphere is diminished. The hot water is then saturated, and if it had been suffered to cool in an open vessel would have deposited part of the salt. But in this case none is deposited, for by suffering the solution to cool in a close vessel, a partial vacuum is produced at the surface of it, (the steam which occupied the top part of the phial when the cork is inserted, being by the subsequent cold condensed), and the water, when cold, is thus enabled to hold in solution all the salt which it had dissolved when hot. As soon, however, as by drawing the cork, you admit the usual pressure of the atmosphere the cold water is rendered incapable of holding so much salt in solution, and part is therefore instantly crystallized. The heat which is evolved is the heat of liquidity of the portion of salt which thus becomes solid. If when the salt has crystallized you plunge the phial containing it into hot water, it will be again dissolved. You may then cork the phial as before, for future use.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

Metallurgy.

G. KUSTEL,

Metallurgist and Mining Engineer,

Stevenson House, corner Montgomery and California sts.

Ores Analyzed,

Advice given, and Plans furnished for working of different

Ores. Mines examined and reported upon.

20v11 3m

BOALT & STETEFELDT,

Metallurgists and Mining Engineers

AUSTIN, NEVADA.

Western Branch of ADELBERT & RAYMOND, No. 90

Broadway, New York. 11v11

O. W. MAYNARD, J. D. TIEMANN,

MAYNARD & TIEMANN,

Mining Engineers and Metallurgists,

240 Pearl street, New York,

—AND—

CENTRAL CITY, COLORADO.

19v12-1y

Copper, Lead, Gold, Silver,

Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances

made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,

Agent for Townsend Wood & Co., Swansea,

No. 405 Calif. street, San Francisco.

15v10-3m

Copper Ore! Copper Ore!

BOUGHT BY

CONROY & O'CONNOR,

Front, near Pine street, San Francisco.

18v12-4f

To Copper Miners and Others Interested in

the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED

Agent and Attorney by N. Haskell, for the sale of his

COPPER SMELTING FURNACE, which has proved a perfect

success, is prepared to furnish the same to parties having

Copper Ore, or will make arrangements to buy their Ore,

receivable at their mines. For further particulars, apply to

JOHN N. RISDON,

At Coffey & Risdon's, San Francisco.

21v12

SODIUM,

Potassium, Magnesium,

And a fresh supply of

PURE CHEMICALS.

Just received and for sale by

JOHN TAYLOR & CO.,

612 Washington street.

4v12-1m

MARTIN & CO.,

Office, Stevenson House,

Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE

PURCHASE OF COPPER ORES.

Assaying eight per cent. and upwards of Copper to the

We will make advances upon Ores of Copper.

San Francisco, Post Office Box 1259.

22

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2.50 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents.

21v12
P. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL.

K Street, between Third and Fourth, SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and nicely ventilated. No expense has been saved to make it comfortable and pleasant for guests.

Price of Rooms very low. Meals, 25 cents.

8v12-6m
E. EISENMENGER.

BRANNAN HOUSE,

(Formerly Vernon.)

J street, between Front and Second streets, SACRAMENTO.

FIRST-CLASS ACCOMMODATIONS CAN BE HAD.

8v12-3m
MRS. J. DUNN, Proprietress.

WHAT CHEER HOUSE,

SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals, 25 cents.

Board, per week, \$4.00

Board and Lodging, per day, 1.00

Single Rooms, 50

Railroad Ticket Office and Stage Office on first floor.

7v12-3m
A. J. SENATZ, Proprietor.

Eyes! Eyes!! Eyes!!!

DR. HENLY, Oculist and Aurist, HAS received from Scotland one of the most MIRACULOUS REMEDIES for the benefit of the HUMAN EYE ever before discovered. It is unparalleled in its effects upon the diseases incident to this organ. It gives wonderful power to the optic nerve, and removes all the granulations from the lids, and all mucous film from the sclerotic coat without the use of instruments. In fact, it works like a charm on the Eye, without giving any pain. You feel the effect of the medicine in different parts of the head. It drives the disease back into the system, which is better able to stand it than this tender organ.

Why will you suffer when you can be cured in a few days. Persons who have been blind for ten years have been restored to their sight in a short time by the use of this medicine. I will treat any person's eyes in the State, and if I do not give them relief in a short time, I will not charge them anything. Office, No. 751 CLAY STREET, opposite the Plaza, San Francisco.

22v12

California Steam Navigation

COMPANY.

Steamer CAPITAL, CAPT. E. A. POOLE.

" CHRYSOPELUS, CAPT. A. FOSTER.

" YOSEMITE, CAPT. W. BROMLEY.

" CORNELIA, CAPT. E. COCKIN.

One of the above steamers leave BROADWAY WHARF

at 4 o'clock P. M. EVERY DAY (Sundays excepted), for

Sacramento and Stockton, connecting with light-draft

steamships, Marysville, Colusa, Chico, and Red Bluff.

Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA,

ACTIVE and SENATOR, leave as advertised for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.

Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE,

President.

13v12

Rheumatism !!

READ IT! READ IT!!

SACRAMENTO, April 16, 1868.

H. BOWMAN—DEAR SIR: THIS IS THE FIRST WRIT-

ing I have done in two years, and it affords me great

pleasure to be able to use my pen in the service of those who

are suffering, as I have suffered, by stating the following

facts:

I have for two years and upwards been afflicted with

CHRONIC RHEUMATISM, and until a few weeks ago I

have never found anything that afforded me any relief.

For three months of the time I was unable to feed myself,

and for the last five months my arms have been so bent

that I have not been able to dress myself. I was five months

at Warm Springs, at San Luis Obispo, and three months

at a Hydropathic Institute in Stockton, and I have been

under the care of six different physicians in the vain hope

of relief. About four weeks ago I was induced by a person

who had been cured by it to try a bottle of RICHARD'S

REMEDY FOR RHEUMATISM, and in less than twelve

hours I experienced great relief. In a few days I was

enabled to straighten out my arms, and I have been getting

better and gaining in strength and flesh ever since. I have

now the complete use of all my limbs, and, for the first

time in two years, I am out of pain. I do feel for those

who suffer as I have suffered, and if they will take my

advice, they will lose no time in giving the REMEDY a trial.

Yours truly,

GEORGE TAYLOR.

RICHARD'S REMEDY is for sale by

H. BOWMAN,

Druggist, Sacramento.

13v12

A Rare Chance!

A Splendid Business in Alameda County.

FOR SALE AT A GREAT BARGAIN,

400 ACRES OF LAND,

INCLUDING

Landing, Wharf, Three Capacious

Warehouses,

Capable of holding 12,000 Tons, which amount of grain

was stored and shipped the past year. Connected with

said business there is an extensive Lumber Yard; sales

during last year, two million feet, which sales, and the

entire business, can be largely increased.

The above is a rare opportunity for parties desirous of

engaging in an active business that will pay a large

dividend on the investment. Satisfactory reasons given for

selling, and all information desired can be obtained on ap-

plication by mail, or otherwise, to

G. E. SMITH,

Notary Public and Searcher of Records, Office "Beatty

House," San Leandro.

23v12-2m

BEAUTIFUL FOREVER.

The beauty of youth—a fresh complexion and loveliness of expression is desirable, and has a wonderful value in the estimation of everyone; but, alas! it is one of those things on which is written "eminently perishable." How much more desirable is that ornament which is of great price—a meek and quiet spirit; the highest loveliness of all, lovely because loveable. Such beauty is peculiar to no form, to no age, to no person—it is beautiful forever!

The first seems too generally to be the most coveted—and to be so simply because it is most fleeting. Why it should be so is one of the hidden mysteries of our nature. And yet who is there that does not love with a warmth of affection which mere personal attractions can never inspire, the modest retiring one, on whose linaments we seek in vain for those lines of beauty which fade with advancing years, and whose only claim to admiration is our consciousness of the precious fragrance that ever emanates from a lovely example. Earth seems not to be her home; she has a loveliness far above common humanity.

Follow her through life until she has fulfilled her mission here. Watch her as she steps down to the brink of the dark rolling river. How quiet, how resigned, how happy. As the silver cord is loosed, cannot you almost see, as she sees, the angels coming to hear her way to the heavenly land, where there is neither pain nor sorrow; but joy and gladness evermore!

A WORM PROTECTOR, designed to capture and kill the worms which annually infest the trees of forests and parks and fruit trees, has been invented by F. R. House, of Connecticut. It consists of a tin screen, of bell shape, which is to be soldered around a tree, and suspended on an india-rubber band that fits the bark closely; under the expanded edge of the screen, and concealed, there is a receptacle for oil; the worms in their ascent cannot pass the "protector," but are likely to fall into the oil. This invention has been tested, it is said, with the best results; and it will be likely to supersede the use of the ropes and bands of hay and straw saturated with various substances, which are temporarily useful, but very unsightly.

MORE RICH YIELDS FROM CEMENT.—Brown's claim, adjoining Nece & West's, at You Bet, cleaned up for the three weeks ending with Saturday last, as follows:

Saturday, June 30.....	\$3.500
Saturday, July 7.....	3.240
Saturday, July 14.....	8.000

The expenses of this company are probably not far from \$500 per week, which leaves a pretty fair margin of profit.

NEW PATENT LAW.—According to the new postal law just approved by the President, prepaid and free letters are to be forwarded at the request of the party addressed from one post office to another without additional postage charge; and returned dead letters are to be restored to the writers free of postage.

PATENT OFFICE REPORTS.—The Senate has passed a resolution which will enable the Patent Office Report of 1866 to be issued in 1867, and prevent the usual delay of two or three years.

AN ELEPHANT'S TRUNK.—One has been apt to consider a steam-bammer, which can with one blow exert a force of two tons, and with another break a nut without injuring the kernel, as a triumph of human ingenuity, and so it is. But how insignificant when placed in comparison with the trunk of an elephant; for not only can the latter strike a blow of a ton or so, and break an egg or a nut, but it can pick up a pin from the floor, or pull down a tree, project water with the force of a 20-man power forcing-pump, or uncork and drink a bottle of soda-water without spilling a drop.

A NEW DYE, which promises to be of much commercial value, has just been procured from theine, the principle of tea. Of course, if theine were only procurable from tea, the new discovery would not be of much importance; but inasmuch as the principle exists largely in other plants, it will prove of considerable importance.

City College Laboratories,
Southeast Cor. Stockton and Geary sts.
Practical and Analytical Chemistry
and Metallurgy.

THOMAS PRICE,
Professor of Chemistry,
(Formerly of the Normal College, Swansea.)

WILL GIVE PRACTICAL INSTRUCTIONS IN QUALITATIVE AND QUANTITATIVE ANALYSIS AND ASSAYING. The course qualifies students for the application of Chemistry to METALLURGY, MANUFACTURING ARTS, and MINING PURPOSES.

PHARMACEUTICAL and TECHNICAL CHEMISTRY, such as is required by Medical and Pharmaceutical Students, will be taught to such students as may require it.

Course of General Chemistry.

Evening Lectures will be delivered every Tuesday, at half-past seven o'clock, P. M., in the Philosophical Hall of the College, without extra charge to the students in the institution.

On and after the 14th of February, the Laboratories will be open every day, except Sundays, from 8 A. M. to 5 P. M. For further particulars, address

REV. P. V. VEEDEE,
Principal of the City College.
Or at 406 California Street.

SAN JOSE INSTITUTE
—AND—
Commercial College,
SAN JOSE,
Santa Clara County, California.

THE NINTH SESSION WILL COMMENCE ON THURSDAY, July 26th, 1866.
A new, practical and complete Business Course has been adopted, differing from that of any other School in the State. We call the especial attention of Business Men, or those wishing to give their sons a thorough, practical Business Education, to this fact, and request them to send for a Circular before deciding what school they will patronize. Ample accommodations for boarders in the Seminary. Ornamentals, Music, Ancient and Modern Languages taught.

Special arrangements have been made for boys between the ages of ten and sixteen.

For further particulars or Circular, address

FREEMAN GATES, Principal.

Or, GEO. E. HOUGHTON, Prin. Com. Dept.

141st St.

SACRAMENTO SEMINARY.

BOARDING SCHOOL

FOR YOUNG LADIES,

Tenth Street, between F and G.

SACRAMENTO, CAL.

Session commenced January 8, 1866.

MR. AND MRS. HERMON PERRY,

7121st Principals.

SANTA CLARA COLLEGE, S. J.,

SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SIXTEENTH ANNUAL SESSION of this College will commence on

Monday, August 20th, 1866.

TERMS.—Tuition in the Classical and Scientific Department; Boarding and Lodging; Washing and Mending of articles washed; School Stationery; Medical Attendance and Medicine; fuel, light, baths, etc., per session of ten months..... \$350

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

SVII-14121st REV. A. MASNATA, S. J., President.

Commercial Academy for Ladies & Gentlemen

No. 111 K STREET, SACRAMENTO, CALIFORNIA.

Established in 1863, where students can acquire a thorough business education. Double Entry Book Keeping, Practical and Ornamental Penmanship and Drawing, Latin, French, the Common and Higher English Branches, taught on reasonable terms. Students from any part of the State can procure board and lodging in private families, near the Academy, at from \$4 to \$6 per week. For terms, address, MART TAYLOR, Principal; Miss SARAH J. WEIR, Associate Principal.

20121st

SPLENDID

HOMESTEADS!

IN THE COUNTRY.

Twenty-Two Acre Blocks

Adjoining the beautiful Town of

San Leandro, Harlan's Addition

BUT ONE HOUR'S RIDE FROM SAN FRANCISCO.

Property but a few rods from the Railroad Depot. Good schools, good water, splendid view, free from wind and dust, and the best of soil.

33- Title—U. S. Patent. 33

A rare chance to buy a beautiful Homestead for your wife and little ones, at a low figure.

—ALSO—

Improved Homesteads and Farms of 20, 50 or 100 Acres,

In Alameda county. The most desirable locations in the State. Apply to or address

G. E. SMITH,

Notary Public and Searcher of Records,

Office, "Beaty House," (directly opposite the Court House), San Leandro.

1912-3m

PREMIUMS.

1st Premium, at Sacramento Fair.....1862

1st Premium, at S. F. Bay District.....1862

1st Premium at Sacramento.....1863

1st Premium, at San Francisco.....1864

1st Premium, for Cordials.....1864

1st Premium, for Hygienic Bitters.....1864

Awarded to

V. SQUARZA.

COPPERAS! COPPERAS!

200 BARRELS COPPERAS-SULPHATE OF IRON.

For sale, in lots to suit, by

BENJAMIN BRADY,

103 California street,

Southwest corner of Davis, up-stairs.

2412

VALUABLE MINES!
FOR SALE
IN NEVADA COUNTY.

FOUR VALUABLE QUARTZ MINES, SITUATED AT THE base of Deer Mountain, and about equi-distant from Grass Valley and Nevada City, are now offered for sale. These ledges run parallel with each other, are wide and well defined, varying from fifteen inches to four feet in width, and have been sufficiently developed to prove them to be of great prospective value. One of them is an extension of the famous Star Spangled Banner. A shaft has been sunk on the extension to a depth of thirty feet, where the ledge is fully two feet wide, and prospects quite as well as the Banner did at that depth. On account of water, further progress downward was impossible without machinery. These claims are accessible at all seasons of the year, and wood and water exist in their immediate vicinity in great abundance. Parties who would prefer putting up machinery and sinking on one or more of these claims, for an interest in them, can do so, and liberal terms will be granted by the present owners.

Persons desiring to purchase claims, or erect machinery to prospect the same, will find this a capital chance. For further information, reference may be had on application to the Editors and Publishers of the MINING AND SCIENTIFIC PRESS, 205 Clay street, San Francisco. 2412

ANNUAL REPORT
—OF THE—
Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 22, 1860, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD.....\$750,000

II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS..\$1,051,429.37

III.—The Company has NO DEBTS

IV.—The amount of Insurance effected during the year, and which remained in force December 31, 1865:

Fire.....\$12,973,949

Marine.....481,403

This Company commenced underwriting Marine Risks, August 1, 1865.

V.—This Company insures against the following risks, viz: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLD, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.

Also, on CARGOES, TREASURES, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL MARINE AND INLAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

J. HUNT, President.

A. J. RALSTON, Secretary.

San Francisco, January 19, 1866.

William Alvord, S. M. Wilson, Q. W. Bell,

Alex. Weill, M. Cheeseman, Chas. Mayne,

Abn. Seligman, Wm. Hooper, David Tevis,

Amos G. Silles, John B. Newton, T. L. Barker,

John G. Bray, Edward Martiu, Jas. De Fremery,

A. Hayward, D. O. Mills, Wm. Sherman,

D. W. C. Rice, H. Hansmann, John O. Earl,

C. Meyer, L. B. Benenley, Alfred Borel,

D. J. Oliver, Moses Heller, G. T. Lawton,

Alpheus Hull, William Scholle, E. L. Goldstein,

W. C. Ralston, Louis McLane, Moses Ellis,

John Wighman, Oliver Eldridge, P. L. Weaver,

L. Sachs, A. B. Forbes, David Stern,

Frederick Billings, J. O. Kellor,

State of California, City and County of San Francisco, ss.

On this nineteenth day of January, A. D. one thousand eight hundred and sixty-six, personally appeared before me, H. S. Homans, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. Ralston, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.

Subscribed and sworn to before me, this 19th day of January, A. D. 1866. H. S. HOMANS, Notary Public.

SVII-123m

NEW YORK PRICES.

C. E. COLLINS,

No. 603 Montgomery street, San Francisco.

EXCLUSIVE AGENT

—FOR THE—

AMERICAN

WATCH FACTORY.

A large assortment of these

Superior Watches,

In Gold and Silver Cases,

Constantly on hand, and sold at Factory prices. Also,

ENGLISH AND SWISS WATCHES,

Imported directly from the Manufacturers.

The American Company are now making

VERY FINE WATCHES FOR LADIES.

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NEW YORK PRICES.

Auction House.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 413 Montgomery street.—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland. ctf

Napa City, May 9th.—Messrs. Drew & Co. Patent Agents, San Francisco: Yours of May 7th is at hand. I am pleased to hear of the receipt of our caveat papers at the U. S. Patent Office, Washington, D. C. You have my fullest thanks for your energetic movements concerning the same. Respectfully, yours, W. W. LEVERING.

Professional Cards.

PATENT BUSINESS.

We have lately associated with us in the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner. DEWEY & CO.,
San Francisco, June, 1866. Patent Solicitors.

FREDERICK MANSELL.

Mechanical & Architectural Draughtsman,

No. 422 California street, corner of Leidsdorff.

Drawings of Monks made for parties applying for patents at Washington or London. mar23-11

JAMES M. TAYLOR,

Attorney and Counsellor at Law,

COURT COMMISSIONER, appointed by the Fourth District Court, COMMISSIONER OF DEEDS for Nevada and Massachusetts.

Court Block, San Francisco.

Entrances opposite City Hall, Merchant street, and 636 14111st Clay street.

DR. H. AUSTIN,

DENTIST,

No. 634 Washington Street,

Between Montgomery and Kearny Streets

(OVER SAN FRANCISCO BATHS)

SAN FRANCISCO. 20v10-qy

DR. D. R. BECKFORD,

OCULIST,

Office of Dr. Beckford's "Golden Eye Water,"

1612-3m NO. 719 CLAY STREET.

AUGUST KUNAST,

Stock Broker,

Member of the

San Francisco Stock and Exchange Board,

Buys and Sells Stocks, Bonds, Etc.

Office, No. 540 Washington Street, San Francisco. 2v10

WILLIAM P. BLAKE,

MINING ENGINEER,

Will make Surveys and Examinations of Mines, or give advice regarding their working, the erection of Machinery, etc.

Office at Union Iron Works, corner of First and Mission

Sts., or Lock Box 2,077 Post Office, San Francisco. 11v22ay

GEORGE H. BAKER,

Lithographer & Engraver,

No. 522 Montgomery St., San Francisco.

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IN MOST ARTISTIC STYLE. CALL AND

EXAMINE SPECIMENS. 10v8-1f

SHERMAN DAY,

Mining Engineer,

No. 57 Montgomery Block, San Francisco,

Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines. 224

New Mining Advertisements.

Cordillera Gold and Silver Mining Company,

Chihuahua, Morelos Mining District, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1866, an assessment (No. 7) of one dollar per share was levied upon the capital stock of said company, payable immediately in United States gold coin, to the Secretary, No. 321 Washington street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirtieth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. R. REEO, Secretary.

Office, 321 Washington street, San Francisco, Cal., near Front.

N. B.—Until further notice, all advertisements of this Company will appear in the MINING AND SCIENTIFIC PRESS.

San Francisco, Cal., July 19th, 1866. j21

Diana Gold and Silver Mining Company,

Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the seventh day of June, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount.

Allen, H. H. 234 3 \$15 00

Alman, Jno 304 7 35 00

Alman, Jno 375 6 30 00

Bateman, I. C. 211 4 20 00

Biddle, M. E. G. 333 17 87 75

Cutter, H. F. 14 21 105 00

Cutter, H. F. 248 10 50 00

Cutter, H. F. 336 10 50 00

Carr, J. S. 236 10 50 00

Dawley, J. S. M. & Co. 161 5 25 00

Dawley, J. S. M. & Co. 162 5 25 00

Oawley, J. S. M. & Co. 161 10 50 00

Light, C. H. 2 6 31 25

Lindenberg, T. E. 112 8 40 00

Lindenberg, T. E. 357 10 50 00

Lodi, G. J. 115 10 50 00

Koyman, H. J. 334 1 5 00

Waterman, F. R. 38 2 10 00

Welch, G. W. 206 10 50 00

And in accordance with law and an order of the Board of Trustees, made on the seventh day of June, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Messrs. Jones & Boudleux, on Friday, the tenth day of August, 1866, at the hour of 2 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. O. FASSETT, Secretary.

Office, 402 Front street, San Francisco. Cal. j21

Lady of the Lake Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 20th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the twenty-first day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 21st day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLIS, Secretary.
Office, No. 302 Montgomery Street, Room No. 2, third floor, San Francisco, Cal.

N. B.—By resolution of the Board of Trustees, it was ordered that a discount of three per cent. be allowed on all payments made prior to August 24, 1886.

WM. HOLLIS, Secretary.

Leland Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given that at a meeting of the Board of Trustees of said Company, held on the 20th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the 21st day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 21st day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLIS, Secretary.
Office, No. 302 Montgomery Street, Room No. 2, third floor, San Francisco, Cal.

N. B.—By resolution of the Board of Trustees, it was ordered that a discount of three per cent. be allowed on all payments made prior to August 24, 1886.

WM. HOLLIS, Secretary.

Lady Bryan Gold and Silver Mining Company, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of July, 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, 523 Montgomery Street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. G. HOWARD, Secretary.
Office, 523 Montgomery Street, San Francisco, Cal.

Scott Mining and Exploring Company, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of July, 1886, an assessment of fifty-five cents per share was levied upon the capital stock of said Company, payable on the twenty-first day of July, 1886, in United States gold and silver coin, to the Secretary, at 224 First Street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

V. B. POST, Secretary.
Office, 1121 Taylor Street, San Francisco, Cal.

Union Mattole Oil Company, Humboldt County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the fourth day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bosqui, Maurice	271	8	\$30 00
Bosqui, Maurice	272	1	6 00
Bosqui, Maurice	273	1	6 00
Bosqui, Maurice	274	1	6 00
Bosqui, Maurice	275	1	6 00
Bosqui, Maurice	276	1	6 00
Bosqui, Maurice	277	1	6 00
Bosqui, Maurice	278	1	6 00
Bosqui, Maurice	279	1	6 00
Bosqui, Maurice	280	1	6 00
Bosqui, Maurice	281	1	6 00
Bosqui, Maurice	282	1	6 00
Bosqui, Maurice	283	1	6 00
Bosqui, Maurice	284	1	6 00
Bosqui, Maurice	285	1	6 00
Bosqui, Maurice	286	1	6 00
Bosqui, Maurice	287	1	6 00
Bosqui, Maurice	288	1	6 00
Bosqui, Maurice	289	1	6 00
Bosqui, Maurice	290	1	6 00
Bosqui, Maurice	291	1	6 00
Bosqui, Maurice	292	1	6 00
Bosqui, Maurice	293	1	6 00
Bosqui, Maurice	294	1	6 00
Bosqui, Maurice	295	1	6 00
Bosqui, Maurice	296	1	6 00
Bosqui, Maurice	297	1	6 00
Bosqui, Maurice	298	1	6 00
Bosqui, Maurice	299	1	6 00
Bosqui, Maurice	300	1	6 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Messrs. Olney & Co., No. 418 Montgomery Street, San Francisco, Cal., on the twentieth day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. WINTER, Secretary.
Office, No. 808 Montgomery Street, San Francisco, Cal.

Our Patent Agency.

The Patent Agency of the Mining and Scientific Press has been organized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of Letters Patent from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency on this coast.

MUSIC PRINTING, AT THE MINING & SCIENTIFIC PRESS Book and Job Printing Office.

We have a large font of Music Type (the only one on the Pacific Coast), and are prepared to print Sheet Music or Music Books on favorable terms. DEWEY & CO., Corner Clay and Sansome Streets.

Mining Notices—Continued.**Antioch Premium Petroleum Company, Location of Works: Antioch, Contra Costa County, Cal.**

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of June, 1886, an assessment of two dollars per share was levied upon the capital stock of said Company, payable at once in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the 30th day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 20th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

BENJ. B. GORE, Secretary.
Office, corner Pacific and Battery Streets, San Francisco, Cal.

Arbitrio Mining Company, Batopilas District, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 28th day of May, 1886, an assessment (No. 10) of one dollar and fifty cents (\$1.50) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 811 Montgomery Street, up stairs.

Any stock upon which said assessment shall remain unpaid on the 12th day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 15th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. MARTINON, Secretary.
Office, 811 Montgomery Street, San Francisco, Cal.

N. B.—Until further notice, all advertisements of this Company will appear in the Mining and Scientific Press.

Arizona Consolidated Mining Company, Eucla District, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on Tuesday, the third day of July, 1886, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, at the office of the Company, No. 611 Clay Street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 31st day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 12th day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

U. W. BUNNELL, Secretary.
Office, No. 611 Clay Street, San Francisco, Cal.

Assurance Mining Company, Location: Occidental Lode, San Benito Mining District, County of Monterey, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 24th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, Room No. 4, 302 Montgomery Street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 1st day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 20th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. H. RUSSELL, Secretary.
Office, Room No. 4, 302 Montgomery Street, San Francisco, Cal.

Arizona Copper Mining Company, Castle County, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Austin, H.	407	17	\$8 80
Austin, H.	408	10	4 00
Austin, H.	409	8	1 20
Allen, R. Prest.	33	20	8 00
Allen, R. Prest.	34	20	8 00
Allen, R. Prest.	35	25	10 00
Allen, R. Prest.	36	25	10 00
Allen, R. Prest.	37	25	10 00
Allen, R. Prest.	38	25	10 00
Allen, R. Prest.	39	25	10 00
Allen, R. Prest.	40	25	10 00
Allen, R. Prest.	41	25	10 00
Allen, R. Prest.	42	25	10 00
Allen, R. Prest.	43	25	10 00
Allen, R. Prest.	44	25	10 00
Allen, R. Prest.	45	25	10 00
Allen, R. Prest.	46	25	10 00
Allen, R. Prest.	47	25	10 00
Allen, R. Prest.	48	25	10 00
Allen, R. Prest.	49	25	10 00
Allen, R. Prest.	50	25	10 00
Allen, R. Prest.	51	25	10 00
Allen, R. Prest.	52	25	10 00
Allen, R. Prest.	53	25	10 00
Allen, R. Prest.	54	25	10 00
Allen, R. Prest.	55	25	10 00
Allen, R. Prest.	56	25	10 00
Allen, R. Prest.	57	25	10 00
Allen, R. Prest.	58	25	10 00
Allen, R. Prest.	59	25	10 00
Allen, R. Prest.	60	25	10 00
Allen, R. Prest.	61	25	10 00
Allen, R. Prest.	62	25	10 00
Allen, R. Prest.	63	25	10 00
Allen, R. Prest.	64	25	10 00
Allen, R. Prest.	65	25	10 00
Allen, R. Prest.	66	25	10 00
Allen, R. Prest.	67	25	10 00
Allen, R. Prest.	68	25	10 00
Allen, R. Prest.	69	25	10 00
Allen, R. Prest.	70	25	10 00
Allen, R. Prest.	71	25	10 00
Allen, R. Prest.	72	25	10 00
Allen, R. Prest.	73	25	10 00
Allen, R. Prest.	74	25	10 00
Allen, R. Prest.	75	25	10 00
Allen, R. Prest.	76	25	10 00
Allen, R. Prest.	77	25	10 00
Allen, R. Prest.	78	25	10 00
Allen, R. Prest.	79	25	10 00
Allen, R. Prest.	80	25	10 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of Messrs. Olney & Co., 418 Montgomery Street, on the twenty-fourth day of July, 1886, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

SAMUEL L. C. SWEZEY, Secretary.
Office, 302 Montgomery Street, San Francisco, Cal.

Cortez Gold and Silver Mining Company.

Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that the Annual Meeting of the Stockholders of the above-named Company, will be held on FRIDAY, the tenth day of August next, 1886, at 3 o'clock P. M., at the office of the Company, for the election of Trustees to serve the ensuing year, and for the transaction of other business.

R. N. VAN BRUNT, Secretary.
Office, No. 331 Montgomery Street, San Francisco, Cal.
San Francisco, July 9th, 1886.

Cosala Silver Mining Company, Cosala District, State of Sinaloa, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-sixth day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Arcey, Walter W.	468	5	\$5 00
Arcey, Walter W.	469	25	25 00
Arcey, Walter W.	470	25	25 00
Arcey, Walter W.	471	5	5 00
Arcey, Walter W.	472	5	5 00
Arcey, Walter W.	473	10	10 00
Arcey, Walter W.	474	10	10 00
Arcey, Walter W.	475	10	10 00
Arcey, Walter W.	476	10	10 00
Arcey, Walter W.	477	10	10 00
Arcey, Walter W.	478	10	10 00
Arcey, Walter W.	479	10	10 00
Arcey, Walter W.	480	10	10 00
Arcey, Walter W.	481	10	10 00
Arcey, Walter W.	482	10	10 00
Arcey, Walter W.	483	10	10 00
Arcey, Walter W.	484	10	10 00
Arcey, Walter W.	485	10	10 00
Arcey, Walter W.	486	10	10 00
Arcey, Walter W.	487	10	10 00
Arcey, Walter W.	488	10	10 00
Arcey, Walter W.	489	10	10 00
Arcey, Walter W.	490	10	10 00
Arcey, Walter W.	491	10	10 00
Arcey, Walter W.	492	10	10 00
Arcey, Walter W.	493	10	10 00
Arcey, Walter W.	494	10	10 00
Arcey, Walter W.	495	10	10 00
Arcey, Walter W.	496	10	10 00
Arcey, Walter W.	497	10	10 00
Arcey, Walter W.	498	10	10 00
Arcey, Walter W.	499	10	10 00
Arcey, Walter W.	500	10	10 00
Arcey, Walter W.	501	10	10 00
Arcey, Walter W.	502	10	10 00
Arcey, Walter W.	503	10	10 00
Arcey, Walter W.	504	10	10 00
Arcey, Walter W.	505	10	10 00
Arcey, Walter W.	506	10	10 00
Arcey, Walter W.	507	10	10 00
Arcey, Walter W.	508	10	10 00
Arcey, Walter W.	509	10	10 00
Arcey, Walter W.	510	10	10 00
Arcey, Walter W.	511	10	10 00
Arcey, Walter W.	512	10	10 00
Arcey, Walter W.	513	10	10 00
Arcey, Walter W.	514	10	10 00
Arcey, Walter W.	515	10	10 00
Arcey, Walter W.	516	10	10 00
Arcey, Walter W.	517	10	10 00
Arcey, Walter W.	518	10	10 00
Arcey, Walter W.	519	10	10 00
Arcey, Walter W.	520	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the 20th day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at the auction rooms of Maurice Dore & Co., 327 Montgomery Street, San Francisco, on the 17th day of July, 1886, at the hour of 12 o'clock M. of said day to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHARLES BAUM, Secretary.
Office, 510 Battery Street, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the twenty-eighth (28th) day of July, 1886, at the same hour and place. By order of the Board of Trustees.

CHARLES BAUM, Secretary.

Eagle Quartz Mining Company, Location of Works: Amador County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh (11th) day of July, 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 10 Exchange Building (713 Montgomery Street), San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the eighteenth (18th) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN M. BURNETT, Secretary.
Office, No. 10 Exchange Building, San Francisco, Cal.

Gold Hill Tunneling Gold and Silver Mining Company, Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice.—The Third Annual Meeting of the stockholders of the above named Company, will be held at their office, 415 Montgomery Street, San Francisco, Cal., on SATURDAY, the twenty-first (21st) day of July, 1886, at 7 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WEGENER, Secretary.

N. B.—All stockholders who cannot be present are requested to file their proxies with the Secretary.

POSTPONEMENT.—The above meeting is hereby postponed until Tuesday, the 31st day of July, 1886, at 3 o'clock P. M.

R. WEGENER, Secretary.

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.—Assessment No. 12.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 26th day of June, 1886, an assessment of one dollar and a half (\$1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, only.

Any stock upon which said assessment shall remain unpaid on the 25th day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 13th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

Office, 338 Montgomery Street, San Francisco, Cal.

Notice.—At the above meeting of the Board of Trustees, an order was passed, that the undersigned, General Agent and Attorney in Fact of the Company, with full power to take such steps as he may deem proper, to work the ores of the Company, and further develop the mine; and to that end may employ competent persons, lease or build mills, erect furnaces, enter lode, make and let contracts, sign seal and deliver obligations, and do and perform whatsoever thing else may be deemed for the interest of the Company, and with power to employ and substitute a Secretary during his absence.

W. D. ROOT, Secretary.

Great Central Mining Company, Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second (2d) day of July, A. D. 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States of America, to the Secretary, at the office of the Company, No. 302 Montgomery Street, between the hours of 4 and 6 P. M.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the twenty-seventh (27th) day of August, A

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and c, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

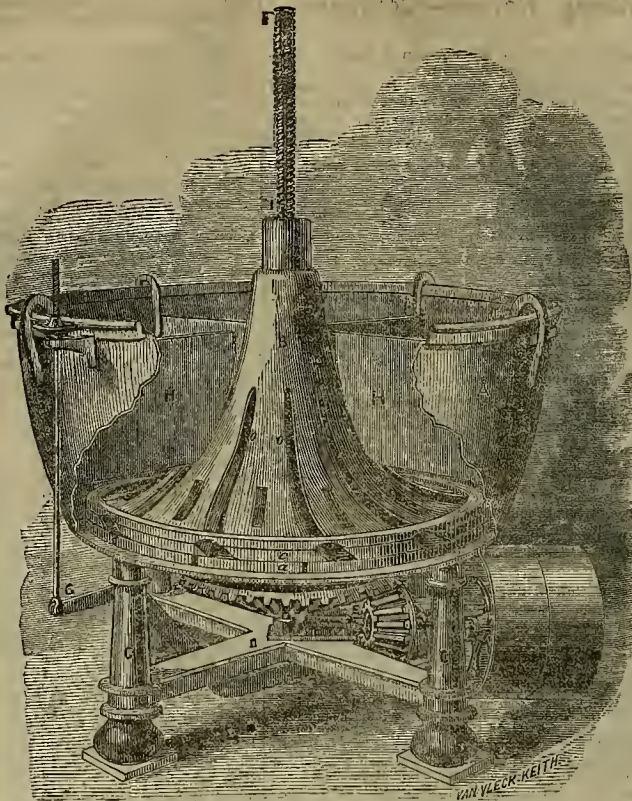
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works.

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
1st
San Francisco.

IRON!

Glasgow Iron and Metal

IMPORTING COMPANY,

Nos. 25 and 27 Fremont street, San Francisco.

Keep constantly on hand a large assortment of

Bar Iron,

Boiler Tubes,

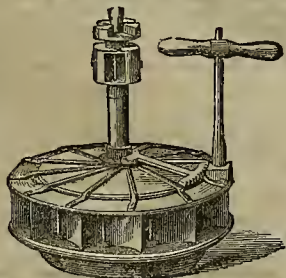
Anvils,

Cast Steel, Etc.,

Which they offer to the trade on liberal terms. 18v12-3m

LEFFEL'S

American Double Turbine

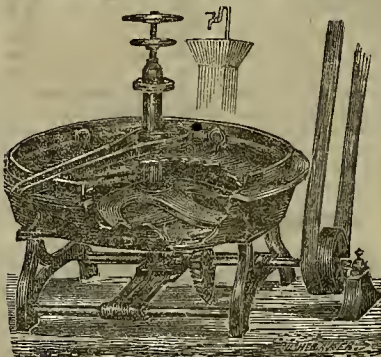


THIS WHEEL, WHICH HAS HAD THE most successful record of any wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 20 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular or to
KNAPP & GRANT,
—ALSO—
San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by
KNAPP & GRANT,
San Francisco.
18v12-3m

BAUX & GUIDO'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics Fair for 1864, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine SCIENTIFIC KNOWLEDGE WITH PRACTICAL EXPERIENCE, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIDO'S Pan, are the following: The trifling cost for attendance; its small cost; its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping; as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the trifling power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jefferson Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Grall's Gravel Cement Works, Nevada county; Walman's Chlorination Works, Nevada Cal.; Gold Hill Quartz Mill, Washoe.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hough & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address
J. B. BAUX,
Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco.
4v8-6d

Cotton-Filled Gum Belting,

3, 4, and 5-Ply,

FROM 4 TO 22-INCH,
IN LIBERAL SUPPLY.

FOR SALE BY

GILLIG, MOTT & CO.,

Corner C and Taylor streets,

VIRGINIA, NEVADA.

—AND—

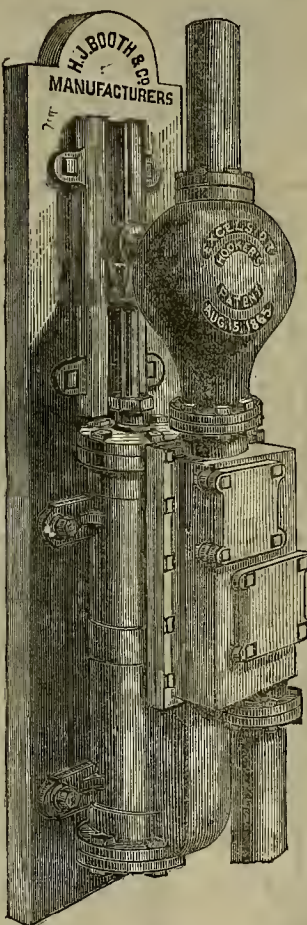
Nos. 148 AND; 150 J STREET,

18v12-1f SACRAMENTO, CALIFORNIA.

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, 1st. Sacramento City, has facilities unsurpassed in this State for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORGE PUMP of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground.
18v12-2

EXCELSIOR PUMP!



HOOKE'S PATENT!

THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufacturers, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITTON & CO.,

General Agents,
120 Front street, San Francisco.
2v13-3m

See d for Price List.

STODDARD'S

CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER, OR SPRING VALLEY WATER R perfectly pure and healthy. Three sizes. Price, \$12, \$16 and \$18. For sale by
S. B. STODDARD,
Corner of Battery and Pacific streets.
18v12-3m

June 23, 1866.

Union Amalgamator.

This Valuable Invention

ITS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention.
18v12-3m

BRUCKNER'S

Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBORG,

19v12 416 Market street, San Francisco.



FLORENCE SEWING MACHINES!

COPY OF THE REPORT OF THE COMMITTEE OF AWARDS AT THE FAIR OF THE

AMERICAN INSTITUTE,

New York, 1865,

—TO THE—

Florence Sewing Machine Company,

FOR THE BEST FAMILY SEWING MACHINE.

HIGHEST PREMIUM—GOLD MEDAL!

REASONS:

- 1st.—Its simplicity and great range of work.
- 2d.—The Reversible Feed Motion.
- 3d.—The perfect finish and substantial manner in which the machine is made.
- 4th.—The rapidity of its working and the quality of the work done.
- 5th.—The Self-adjusting Tension.

The "FLORENCE" was awarded the First and Highest Premium at the State Fair of California, the only Fair on the Pacific Coast at which any two double-thread Sewing Machines were exhibited in competition in 1865.

The "FLORENCE" received the only premium awarded by the Mechanics' Institute of San Francisco in 1864 and 1865, to any Sewing Machine, Sewing Machine Company, or Agent. The claim of a competitor to a medal is without any foundation whatever.

Wherever the "FLORENCE" has been brought in competition with other Sewing Machines, it has always been declared the best. It is the most simple, the most substantial, the most efficient, and its use is easily learned. Every Machine sold is guaranteed in the full sense of the word.

Send for Circulars and Samples of Work.

SAMUEL HILL, General Agent,
20v12-14w 111 Montgomery street, San Francisco.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by

THOMAS H. SELBY & CO.,

22v12-3m Nos. 116 and 118 California street

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, our axes, shafts, straight cranks, pistons, rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction.
18v12-3m

SALMON.—Where does the salmon go when he is in the sea? You may catch him in salt water as he is going up the rivers. Where does he spend the rest of his time during the six months or so he passes in the ocean? Was one ever caught out in the far ocean? What does he take a fly for? A trout fly is an imitation, but a salmon fly is like nothing in heaven or earth. Moreover, as far as I know, salmon do not eat real flies. In fact, it is hard to say what salmon do eat in fresh water. When you catch them their stomachs are always empty. Surely a large Namisen fly, all silver twist and golden pheasant feathers, is nothing like a salmon can have ever seen. Besides a salmon will take a boiled prawn; surely he can never have seen that before. And thirdly, I want to know why the more a river is fished the slier the fish are. You will find this the case not only towards the end of the season, but also will experience the same the next year when you first begin. Do the few fish who are hooked and get off, tell their neighbors and friends that a salmon fly is not the most desirable thing to put into their mouths?

IMPORTANT HINTS TO PARENTS.—Few parents realize how much their children may be taught at home, by devoting a few minutes to their instruction every day. Let a parent make the experiment with his son of ten years old for a single week, and only during the hours which are not spent in school. Let him make a companion of his child, converse with him familiarly, put to him questions, answer inquiries, communicate facts, the result of his reading and observation, awaken his curiosity, explain difficulties, the meaning of things, and all this in an easy, playful manner, without seeming to impose a task; and he himself will be astonished at the progress which will be made.

SIR JOHN MASON, Privy Counsellor to Henry VIII., spoke as follows upon his death-bed: "I have seen five princes, and have been privy counsellor to four. I have seen the most remarkable things abroad, and been present at most state transactions for thirty years. After all this experience I have learned this, that seriousness is most commendable; temperance the best physic; and a good conscience the best estate."

DANGEROUS TO WEAR.—Paper enamelled collars are bad to wear if the enamel comes in contact with the neck. Several clerks in Boston have been poisoned by the lead absorbed into their systems from such collars.

J. B. COSE, BUSINESS AGENCY.—Makes private sales of Property and Business Places of every description, in the city and throughout the State; procures partners with large and small amounts of money; negotiates sales of mining property, and does a General Agency Business. Patronage solicited by mail, express, or by personal application at the office, 402 Montgomery Street, San Francisco, California. 2v1114

WE ARE NOW OFFERING OUR IMMENSE STOCK
—OF—
Fine Custom Made Clothing
—AND—
Gents' Furnishing Goods
AT PRICES THAT DEFEY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.
A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.
J. R. MEAD & CO.,
8v10 Cor. of Washington and Sansome streets

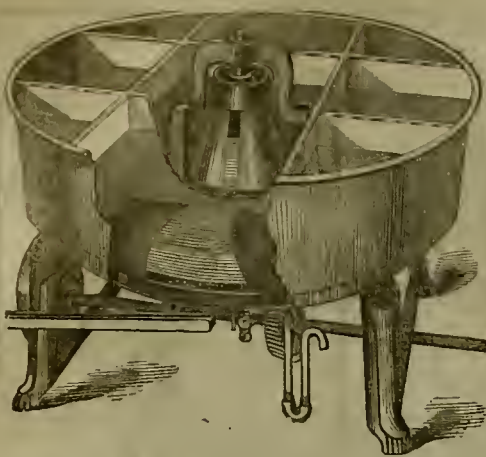
WM. H. KEITH & CO.,
Chemists and Apothecaries,
PROPRIETORS AND MANUFACTURERS OF

WM. H. KEITH & CO.'S WINE OF PEPERINE, OR BENNETT WINE, a new and efficacious remedy for Dyspepsia, Gastritis, etc. **WM. H. KEITH & CO.'S GLECOLEIN,** a new and valuable compound of Cod Liver Oil, put up in glass jars. **WM. H. KEITH & CO.'S LEMON & PEPPERMINT Purgative Lemonade,** an agreeable, cooling and active purgative, or mild laxative, as required. **WM. H. KEITH & CO.'S SAPONACEOUS TOOTH POWDER,** DEVINE'S FITCH LOZENGES, for the cure of coughs and colds. **WM. H. KEITH & CO.'S FLORENTINE TOOTH WASH.** **WM. H. KEITH & CO.'S GRANULA Effervescent Citrate of Magnesia.** **WM. H. KEITH & CO.'S Rosemary and Casior Oil Hair Invigorator.**
WM. H. KEITH & CO. being in frequent communication with Eastern and European markets, are continually receiving their stock of Pure Drugs, Rare Chemicals, Fancy Goods, and Toilet Articles, Pure Oils, etc. They also give special attention to replenishing ship medicine chests. Also, they received a large and well-selected invoice of **HERSHEIN'S CELEBRATED INSTRUMENTS,** consisting in part of Amputating and Obstetric sets, Pocket Cases, etc. Physicians and others at a distance ordering goods from us, can depend upon having their orders filled with the same regard to quality and price, as though obtained in person, and we give particular attention to packing and forwarding the same.

WM. H. KEITH & CO.,
Apothecaries' Hall, No. 521 Montgomery street,
15v121y Between Clay and Commercial, San Francisco.
Its correspondents are men of science and learning, and hail from all parts of the coast. It is published at San Francisco, at \$5 per annum, or \$3 for six months. Address Dewey & Co., publishers of Mining Press, San Francisco, [Nye County News.

Knox's Improved Patent Amalgamator and Separator,

With Palmer's Patent Steam Chamber or Die.



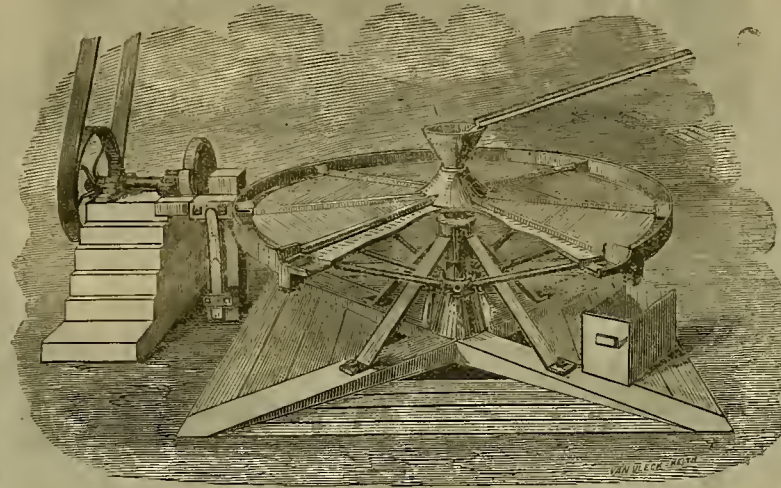
For further particulars, inquire of

14v13p12q

ISRAEL W. KNOX, or
W. A. PALMER, Inventors,

At the Golden State Iron Works, No. 10 First street, San Francisco.

VARNEY'S CONCENTRATOR,



With a disk 4 1-2 feet in diameter—total weight of Machine 350 pounds.

Is driven by one-eighth of a horse-power, and will concentrate eight tons of ore per day, and make the sulphure clean. Larger ones do work in proportion to size.

IT CAN BE SEEN IN OPERATION AT THE PACIFIC IRON WORKS, SAN FRANCISCO. 22v12-3m

GOLVIN'S American Cow Milker.

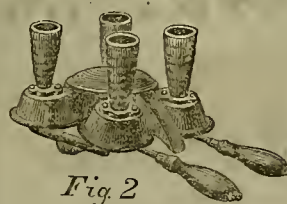


Fig 2

been demonstrated in this State. The machine may be seen at this office, where further information can be gained. June 29th, 1886. 25v12

Steam Pumps,
FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS
For Steam Engines.
Gifford's Injectors,
For Feeding Boilers.

STODDART'S IRON WORKS,
114 Beale Street, San Francisco. 25v12 3m

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE
ITHACA CALENDAR CLOCK COMPANY,
Ithaca, N. Y., and for sale by
W. J. EGBERT, Agent,
At Job M. SEAMAN & Co's, 631 WASHINGTON STREET,
San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the Mining and Scientific Press. 25v13p14f

THIS CUT REPRESENTS AN AMALgamator and Separator that has stood the test of thirty years' practical working in the gold mines of California, and for nearly the same time in the silver mines of Nevada, having been introduced into the first steam mills built in the latter Territory, since which time they have been successfully working against all competition.

The great advantages these Amalgamators have over any others, are—

1st. Much less Cost.

2d. They do not "flour" the mercury, and collect any that may have been "licked" in the battery or grinders.

3d. The "shaking" motion given to the pulp (by the revolution of the miller under the stationary frame) against the amalgamated copper plates that are fastened to the frame, and by this means catching the fine gold and mercury that will not settle.

4th. The gate in the cone, through which the pulp is discharged, from the top, and where there is the least motion, almost precluding the possibility of any granulated mercury or fine gold escaping.

There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

Portable Steam Engines!

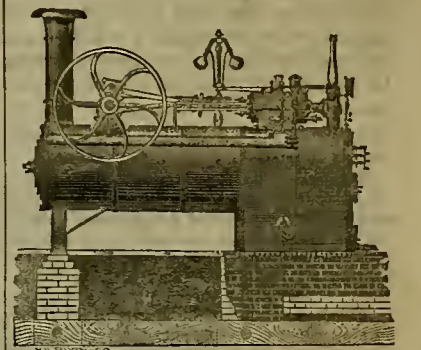
"Hoadley's" and "Hittinger's" Make,



HOADLEY'S.

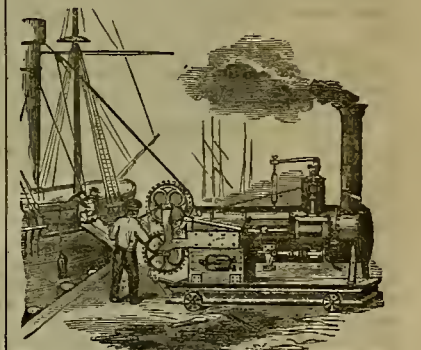
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

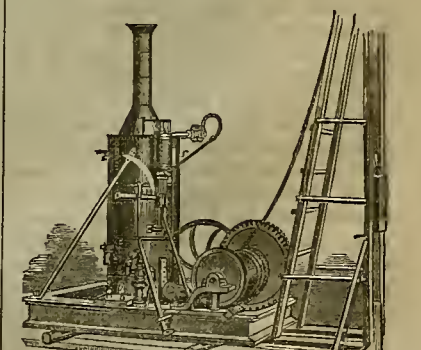
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price.

These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes. Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises,) in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.

All sizes on hand from 3 to 20 horse power, with and without carriages.

Also, Portable Saw and Grist Mills.
For sale by
TREADWELL & CO.,
18v12 Corner of Front and Market streets

FAIRBANK'S

HAY,
COAL,
CATTLE,
MINERS', AND
GROCERS'
Scales.

We would call the attention of Miners to our large scales for WEIGHING LOADED WAGONS, of from 10,000 to 20,000 lbs capacity. Manufacturers' Branch House, FAIRBANKS & HUTCHINSON, 334 Montgomery street.

19v12 3m

The Hansbroy Pumps ARE WARRANTED THE BEST.

FIFTEEN KINDS AND SIZES, Adapted for FARM, Mill and Mining Purposes.

Efficient for HAND, WIND, HORSE, WATER AND STEAM POWER. For sale in every city and town on the Pacific Coast.

LOCKE & MONTAGUE, Agents,
112 and 114 Battery Street, San Francisco. 25v12-2m
Send for Illustrated Catalogue.

TRY IT 50 PER-CENT SAVED BY USING

STANDARD SOAP COMPANY'S WASHING POWDER,

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARations for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for using in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1-lb each, and in wooden boxes of 10-lbs bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15v12q

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office. 16v23

A MODEL QUARTZ MILL.—Messrs. Hanscom & Co., of the Aetna Iron Works, have just completed a working model quartz mill, which forms a novel and attractive machine, in operation. The battery consists of a cast iron mortar, hotted firmly to a black walnut bed and frame, with screen, four stamps, shaft, cams, fly-wheel, etc., complete. Each stamp, with shoe, stem and tappet, weighs about four pounds. A 12-inch Eureka grinding and amalgamating pan is connected to the cam shaft of the battery, so that the whole is operated together. This mill is prepared to take in small rock, and crush it fine enough to pass through the screen into the pan, where it is finally reduced and amalgamated as perfectly as it could be done in a full-sized quartz mill. The mill was ordered through the MINING AND SCIENTIFIC PRESS AGENCY, for M. J. Henley, Esq., of Dayton, Nev., who is now on a visit East, and intends to exhibit this model at the Universal Exhibition, at Paris.

NEVADA STATE MINING LAW REPUDIATED IN UNION DISTRICT.—The miners of Union District, Ions City, State of Nevada, do not appear to be very well satisfied with the recent action of the Nevada Legislature concerning the location and possession of mining claims. At a recent meeting of the miners of that district, the following resolutions were unanimously adopted:

WHEREAS, The Legislature of the State of Nevada, at its last session passed a law concerning the location and possession of mining claims, the provisions of which, in our opinion, are not only unjust and oppressive to the miners, but in direct conflict with the Constitution of said State, therefore,

Resolved, That we, the miners of the Union Mining District, Nye county, Nevada, are in favor of and do hereby declare, that we will continue to locate and hold possession of mining claims in this district, in accordance with the provisions of our present existing District Mining Laws, the provisions of the said legislative enactment to the contrary notwithstanding.

Resolved, That we now proceed to elect a Mining Recorder for Union Mining District, under and in accordance with our present District Laws.

The following fees have to be paid according to the law to which the resolutions refer, upon a claim of 2,000 feet: To the Mining Recorder—filing notice of claim, 25 cents; measuring 2,000 feet (20 cents each 100 feet), \$4; measuring assessment work, giving a certificate, recording and indexing the same, \$2; recording and indexing notice of claim containing less than 200 words, \$1, making \$7.25. To the County Recorder—Filing notice of claim, 25 cents; indexing the same, ten names, \$5; recording same 200 words, 60 cents; stamps on certificate, 10 cents, making \$5.95. Total, \$13.20, payable in currency.

SULPHURETS.—Any person who may have, in this city, a lot of sulphurets or sulphureted ore, which they desire to have desulphurized, can have that service performed free of expense by giving notice of their desire at this office any time during the coming week.

THE CHALK BLUFF BLUE GRAVEL MINING COMPANY, which has recently made a very extensive location above You Bet, in Nevada county, is now fully organized for work. The superintendent, Mr. Stronnanhan, accompanied with a competent engineer, went up on Thursday last to lay out and commence the work of opening up the mine.

TO IDAHO VIA CHICO.—The stage and foot freight line to Boise City and Idaho is now in successful operation.

Change in Prices.

Single Copies of the MINING AND SCIENTIFIC PRESS will hereafter be sold at FIFTEEN (15) CENTS. By City Carriers, 50 Cents per month; Monthly Series, 65 Cents. The rates of Yearly Subscriptions, at the office of publication, remain as heretofore—\$5 per annum. The price to News Agents will be advanced 1 1/2 cents per copy. Agents in the Interior supplied. June 30, 1866.

Blanks, Blank Mining Books, Constitution and By-Laws

—OF—
Mining and Prospecting Companies
Elegant printed, with care and dispatch, at the office of the Mining and Scientific Press.
Orders from the Interior, faithfully attended to.

ONE HUNDRED DOLLARS REWARD!!!

The above Reward will be paid to any one who will produce evidence of a failure of any of HENDY'S IMPROVED SELF-DISCHARGING CONCENTRATORS, Patented February 27th, and April 17th, 1866—which said amount is deposited for 60 days with Palmer, Knox & Co., No. 19 First street, San Francisco.
June 23d, 1866.

J. HENDY, Patentee.

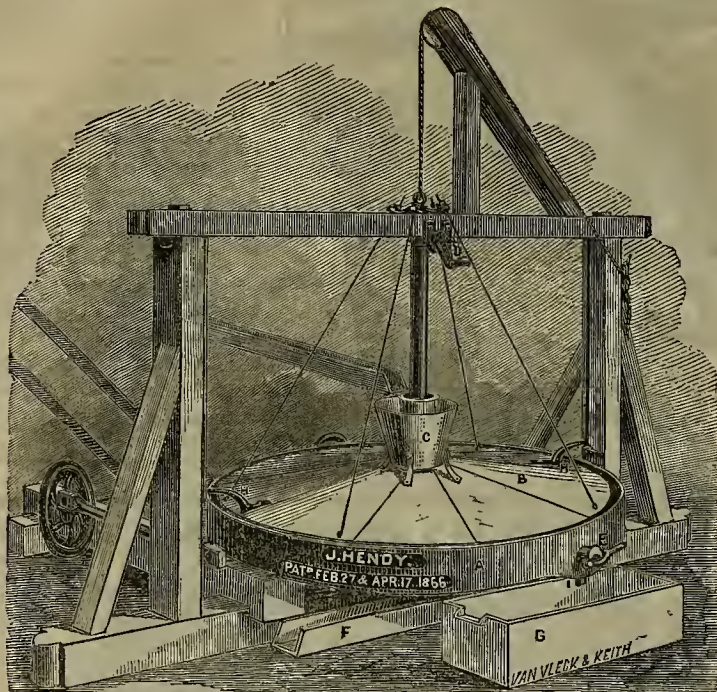


Figure 1.

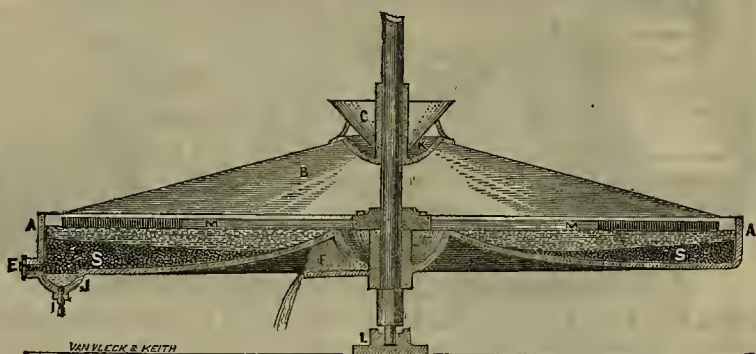


Figure 2.

Hendy's Improved Patent Self-Discharging Sulphurets

PRATER CONCENTRATOR

Is Receiving Universal Favor.

Reference is made to the following Mills which have them now in use:

BENTON MILL, Bear Valley, Mariposa County. SPRING HILL MILL, Amador, Amador County.
LOUSTAN MILL, near Conterville, Mariposa County. GOLDEN GATE MILL, Volcano, Amador County.
OPHIR MILL, near Newcastle, Placer County. RAWBLIDE MILL, Jamestown, Tuolumne County.
C. H. SCHNABLER'S MILL, Doty Flat, Placer County. TRIUNFO G. & S. M. CO., Lower California, Mexico.
CONY MILL, Jackson, Amador County.

And in use in many other parts of this State; also in Idaho, Arizona, Colorado and Mexico.

As a further evidence of its worth, orders have been received recently from the proprietors of the following mills, all of whom are using these Concentrators, or have works in the immediate neighborhood of mills using them, viz.:

One Concentrator for the Ophir O. & S. M. Co., near Newcastle, Placer County, ordered by Welty & Foster, who are using two Concentrators; one Concentrator for the Benton Mill, Mariposa County, ordered by Messrs. Dodge & Bro., of this city, who are using seven of them in the same mill; one Concentrator, ordered by Messrs. Bigelow & Bro., of this city, for the Cony Mill, Jackson, Amador County, where they have already three of them in operation.

They may be seen in operation at the GOLDEN STATE FOUNDRY, No. 19 First Street, San Francisco.

DESCRIPTION:

FIGURE 2 is a sectional view. C, is the Hopper in which the tailings are thrown. The tailings then distribute on the Distributor, B. The tailings enter the pan, A, at its periphery, and the debris discharges near its center, and passes off in the spout, F. The sulphurets discharge at gate, E, amalgam and quicksilver at plug, I. J, is a horn-shaped cavity for collecting quicksilver and amalgam. S, is the sulphurets. M, M, the agitating bars, with copper plate, coated with mercury.

The agitating bars operate on top of the pulp. They are acknowledged to be, by those using them, a valuable improvement. [An extra charge of \$15 is made when these bars are furnished.] The pan, A, shows a curve-linear bottom, which gives a more precipitous descent near its center, for the purpose of forcing the sulphurets towards the periphery. It will be noticed that the centrifugal force diminishes towards the center of the pan, for which reason the inclination is increased for the purpose above mentioned.

The pan, A, has an inclination at its periphery, towards the gate, E, for the purpose of forcing the sulphurets to the discharge gate. At the same time the center rim is level; the sulphurets, S, being forced by the oscillating motion of the machine, and are discharged through a small opening in the pan at gate, E.

JAMESTOWN, TUOLUMNE COUNTY, CAL., July 15th, 1866.

JOSHUA HENDY, Esq., San Francisco:—MY DEAR SIR: It gives me pleasure to inform you that the four "Improved Self Discharging Prater Concentrators," which I purchased from you, have now been in operation in the Rawblide Mining Company's Mill for more than two months, and have more than realized my expectations.

I am free to say it is the best Machine for saving Quicksilver, Amalgam, and Sulphurets that I have ever used or seen used for that purpose. I shall take pleasure in showing any one interested the Machine in operation, who will call at the mill. I shall need four more as soon as the balance of our mill is completed. Yours truly,

R. P. JOHNSON, Superintendent Rawblide Mill Company.

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SAN FRANCISCO, SATURDAY, JULY 28, 1866.

VOLUME XIII.
Number 1.

AERATED BREAD.

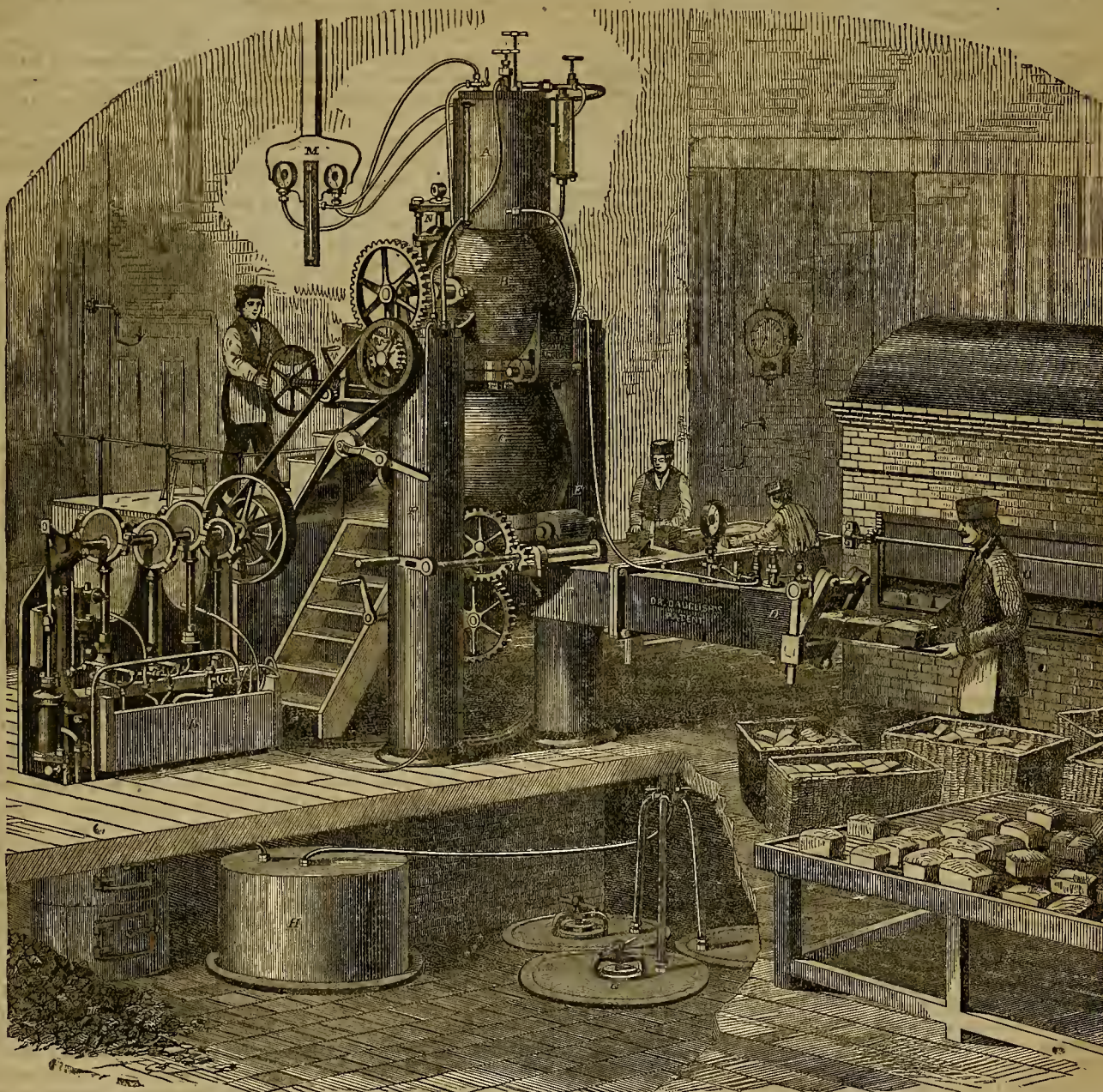
The making of bread by forcing carbonic acid gas into the dough, instead of generating it by fermentation in the dough itself by soda, cream of tartar, or other chemicals, was first introduced in 1854, since which time various modifications and improvements of the

sel, A, over the mixer, and the air in both vessels exhausted by the air pumps in the tank, L, which are driven by a steam engine, whose boiler is seen under the platform on which the pump-tank stands. When the air is exhausted, carbonic acid gas is let into the mixer and water vessel, and is also forced into them by pumps, until it has a pressure of two atmospheres. The water

falls when a valve is opened. As soon as the dough has fallen into the receiver, the valve is closed, and the mixer is ready for another batch, which will be mixed while the previous batch is being molded. At this stage occurs an important part of the process, called "vesiculation," by which a proper texture is given to the dough, by compression of air, within

of the process is well arranged, the bread has an even, fine spongy texture, without large air-holes, or lumps insufficiently spongy or "vesiculated."

As will be seen, the delivery door of this vesiculating chamber, is close to the oven-door, O, and the pans, in rows on boards as long as the oven mouth is wide, are drawn out of the vesicator and put into the oven. A row of pans, on the board, is shown in the mouth



machinery employed for accomplishing the end have been devised. The machinery illustrated by the accompanying cut gives a very good idea of the general principles of the operation, now in use by the Boston (Mass.) Wheat and Bread Company, as illustrated in the *New York Artisan* of May 9th, 1866.

The flour, after being sifted by machinery, is placed, with a proper quantity of salt, in the mixer, B, which, when the cover is on, is a strong air-tight vessel. Water is then put into the ves-

is then admitted from the vessel, A, to the flour in the mixing vessel, B; and a kneading fan in the mixing vessel is set to work by the machinery shown outside; and in from three to six minutes, according to the proportion of gluten in the flour, the mixing is completed. The dough is then ready to be made into loaves. In order that the apparatus above described may not be kept idle until the batch is molded into loaves, there is, under the mixer, B, a receiver, C, into which the dough

each baking pan before it receives the dough from the measuring valve. Attached to the receiver, C, is an automatic apparatus, D, which receives compressed air from the column, E, so that there is always the required pressure in the vessel, D, in which the dough is measured into the pans. Several pans being filled, the pressure in the vessel, D, is gradually lowered, so that the bread rises gently and steadily, without bursting its gas cells, and losing its carbonic acid gas. When this part

of the oven, and another row is being drawn from the vesicator. The oven has in it a revolving apparatus which carries in the pans, and delivers them when the baking is completed. The bread is then shaken from the pans into the baskets in which it is carried to the dealers or consumers, and the baker's hands never touch it or any of the materials of which it is made. In an hour thirteen hundred and forty-four loaves are made from flour in the barrel; by the old process several hours are necessary to form the sponge, and more time in kneading, raising and baking.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Written for the Mining and Scientific Press.)

Notes on the Chief Gold Districts Throughout the World.

BY PROFESSOR ROWLANDSON, F. G. S. L.

THE URALS.

Sir Roderick Murchison, in his magnificent work on the "Geology of the Russian Empire," appears to have pretty well established his point that the gold-bearing rocks of this range, so far as they have been explored up to this time, belong to the Silurian era. In a range, however, of 500 miles in length, it is possible points may have been overlooked where auriferous strata may, perhaps, penetrate secondary rocks. Respecting the Altai, I have never seen the work referred to by Sir Roderick, and can only apply the same remarks which I have done to the Urals.

THE BRITISH ISLES.

All the instances known to me where gold is found in any notable quantity, excepting two, pertain to the Silurian period. The exceptions are a vein of pyrites, in the carboniferous limestone of the North of England, which accompanies the galena of that district, and another more remarkable one in the same formation, situated in Staffordshire, which, singular to relate, contains about five ounces of silver and one hundred and fifty grains of gold to the ton of lead, whilst in the extensive galena district, occupying probably 500 square miles of territory, there are scarcely any which contain more than two ounces of silver to the ton of lead. The gold-bearing galena of Staffordshire differed in crystallization from that found in all the neighboring veins, some of which were not 100 feet distant.

THE IBERIAN PENINSULA.

Probably Sir Roderick Murchison is right in supposing that gold obtained in ancient and modern times in Central Spain was derived from Silurian rocks. He also has instanced paleontologic evidence in the authority of Cassiano de Prado, that the Sierra Nevada, Morena, etc., including the quicksilver mines of Almaden, belong to the same formation. I expect the latter statement is based, as probably are many similar ones, more on the fact that in the vicinity of these mines the neighboring rocks are metamorphosed into talc and igneous rocks of granite type, which have hitherto been almost universally held only to underlie the more ancient aqueous deposits, and from this circumstance have been denominated primary rocks. Now that it is known that the so-called primary rocks have, in many instances, been formed and placed in the positions where they are now found, within very recent geological periods, the contiguity of these form unsafe guides, so far as the age of metalliferous veins are concerned. If it is true that the Almaden mines of Old Spain belong to the palæozoic series, they form an exception to any other quicksilver mine, the geology of which is as well ascertained as is that of the New Almaden, New Idria, and San Luis Obispo mines, California, and the Idria and Palatinate in Germany. As black slates, impregnated with mercury, are found near Almaden, and members of the chalk series are found on the Sierra Nevada, better proof than any which has yet been brought forward ought to be adduced, before it is accepted as true, that the quicksilver, auriferous and argentiferous region of Southern Spain, belongs only to rocks of Silurian age; particularly when it is stated that auriferous ores are found in the Pyrenees, adjacent to rocks of a cretaceous era. The upheaval of the Pyrenees has been usually assigned to a period that is post-cretaceous. Like the closing of the carboniferous age, the completion of the cretaceous series appears to have been accompanied through most parts of the world, especially where metalliferous veins abound, with violent convulsions and the eruption of plutonic rocks, during which and subsequently, the major part of those mines have been made accessible to man,

which yield what are termed the noble metals.

NORICUM (THE TYROL).

I have employed the term Noricum for the northern portion of Italy, the Tyrol, and because that term was used in the number of this journal published on the 30th Dec. last, in describing a sudden decrease in the value of gold, which took place in the time of Polybius, owing to the large influx which was obtained from the *Taurisci Norici*. If there exists a fair show of reasoning in favor of the metalliferous region of the southern, and also of the Pyrenean portions of the Iberian peninsula, being composed of rocks more recent than Silurian, these reasons hold much stronger when we come to consider the geological features of the Tyrolean Alps, a large part of whose superfaces are composed of rocks ranging from the Triassic to Tertiary age, mixed with veins of auriferous pyrites,* and accompanied by petroleum springs and lignite beds; the latter becoming so fully developed in some parts of Hungary as to be of considerable economic importance; all which circumstances, form a strong analogy to what is exhibited on the Northwest Pacific Coast of America.

Passing by Hungary, with only the brief notice that the auriferous mines found in that kingdom may possibly have the same relation to the post-cretaceous upheaval of the Carpathian mountains, which have already been referred to in the instance of the Pyrenees, I will at once proceed to relate some additional circumstances tending to show a considerable, if not a complete, identity in the geological surroundings and mineralogical composition of the gold ores of Transylvania, and the neighboring parts of Hungary, with those found in California and the contiguous States and Territories. The physical features of the European district, I am informed by natives thereof, greatly resemble those found on both flanks of the American Sierra Nevada, accompanied, as in California, occasionally with wide, flatish plains, the surface of which is formed principally of broken quartz. In California and Transylvania, the auriferous ore is frequently, in fact, almost always, to a greater or less degree, bisulphides, tellurides and selenides of iron,* with gold; tellurium forms occasionally a definite compound—the telluride of gold, as at the Melones mine near Carson Hill, and at other places. It is probable that selenium, either alone or combined with sulphur, tellurium or both, occasionally forms natural compounds with gold. In the upper parts of mines where minerals, such as those described, have been exposed to aqueous and atmospheric agencies, these compounds frequently become decomposed, thus setting the gold free; oxides of iron only remaining loosely associated therewith to indicate its former condition. Such free gold easily amalgamates, and in that state is almost always wholly extracted from the matrix when mercury is employed with that object. As the miner descends in depth, the free gold thus formed becomes less and less, as he penetrates further below the influences named; it may thus happen that much that has been stated of the decline in value of gold veins as they descend, may have arisen, not so much on account of any given measure of the matrix, say a cubic foot or a cubic yard, or a given weight, as for example, a ton yielding a less per centage of gold, but rather from the fact that in practical working a lesser weight of the precious metal is benefited, a large portion, if not the whole of which lessened product cannot but in many cases be attributed, not to the fact of the non-existence of gold, but from its being so combined with other substances that its thorough extraction is a matter of extreme, and occasionally of insuperable difficulty, by the agencies ordinarily employed.

Notwithstanding the attempted explanation above given, of the apparent decrease in the yield of gold veins as they descend, I am free to confess that I am strongly impressed with the opinion that the large nuggets, pepitas, etc., etc., which occasionally have been found, occur much more frequently in the superior than the inferior portion of auriferous veins; in the latter instance the gold is commonly found not only more finely diffused through a greater amount of quartz, but also more intimately mixed with the metallic and other mineral compounds, already noticed. In this way it is easy to conceive why a gold mine, having a width of only three feet at or near the surface, in which the gold presents itself in a metallic form, may be exceedingly profitable to

*In this district, nearly two hundred years ago, was employed, for the first time, the mode of amalgamation which is the basis of all the modern pans.

*It is the presence of these substances which give rise to the so-called refractory ores; owing to the almost insuperable difficulty in securing a perfect amalgamation, excepting by the aid of some preliminary process.

work, and be productive of immense wealth to the lucky owners; but when the same descends some 600 or 700 feet, and only a like, or even somewhat greater amount, is found disseminated through the vein when it has dilated to forty, sixty, or, as is sometimes seen in California, to one hundred and twenty feet in width, may not only become profitless, but occasion loss; especially when, as generally does happen, the gold in the latter case is intimately allied with the minerals alluded to, owing to which circumstance the true refractory has been applied to them; so that a mine, viewed as a whole, may actually increase in absolute richness, when viewed as a totality, as it descends yet becomes worthless as a commercial enterprise. According to the observations made by myself, and information derived from others, I am inclined to believe that in Transylvania tellurium forms the chief disturbing ingredient, whilst in California ores, selenium is more frequently the obnoxious alloy, and in both countries the sulphides of iron alone, or combined with the two first named substances, largely participate in increasing the difficulties of securing the complete reduction of the gold from its matrix. Though it be conceded that in many or all cases, auriferous veins become unproductive of commercial profit in proportion as they proceed in depth, it would be very unphilosophical to base, on such assumed fact, any theory respecting the primary influences which have led to the formation of auriferous veins.

[To be Continued.]

THE STEREOSCOPE—ITS PHILOSOPHY.

This beautiful instrument, which has recently become so popular, was originally devised for the purpose of demonstrating the theory of binocular vision; or in other words of exhibiting the effects and advantages of having two eyes. The principle of the Stereoscope has been known for centuries, although it is only within a few years that the instrument itself has come into use. It now finds its way into almost every social circle, and is made a most important medium of amusement and instruction. By it we can look in upon the ruins of Herculaneum and Pompeii, or into the dark recesses of the Egyptian Pyramids, or upon the wonders and beauties of nature, or the works of art, or scenes of domestic life, with almost as much pleasure as though we were bodily present to view them.

Our readers are all aware that this instrument is so constructed that two perfectly flat photographic pictures, taken under certain conditions, appear to present solid or projecting bodies, possessing all the roundness and reality of nature. Our young readers especially, and all who have not studied into the philosophy of this curious instrument, will, we are assured, be much pleased to read an explanation of how this remarkable result is obtained; or how, by the aid of this simple instrument, these double pictures are made to appear but one, and that one so accurately represent nature itself. We will endeavor to explain the philosophy involved in this simple instrument.

All bodies are rendered visible by the light which radiates from every point of their surface. These rays, by the peculiar formation of the eye and the laws of optics, are brought to a focus and made to form a picture of the object upon the retina of the eye. As soon as this picture is formed upon the retina, the impression thus produced is carried to the brain by the optic nerve, so that it is not really the eye which sees but the mind; while the judgement, educated by experience, determines the positions, relations and distances of the objects thus painted upon the retina of the eye.

Now when we look at objects, two pictures of whatever we see are thus painted—one upon the retina of each eye, just as two pictures must be formed to produce the phenomena of the Stereoscope.

To illustrate this fact, hold up a small book, a little over an inch in thickness, just in front of the nose on your face, with its back towards your eyes and at just the distance at which you can see both covers. Now close one eye and you will see but one cover; close the other eye, and open the first, and you will see the other cover. You must know from this experiment that the two images formed on the retina of the two eyes must differ slightly

the one including more of the right side of the book, and the other more of the left side. Thus two images of the same object, with differences of outline, and consequently of light and shade, will be formed—one upon the retina of each eye. These two images convey to the mind but a single object, the effect of which is to cause it to stand out. It is thus when we look into a grove of trees, we are able to determine that one portion of the trees stand farther from us than another.

A person looking with one eye only cannot readily distinguish either the form of a body, or its exact position so as, if it is near by, to reach out and touch it by the hand. As a proof, close one eye, approach a burning candle, and attempt to snuff it or take a hold of it. You would experience more difficulty in doing so than you would suppose would be met with before trying the experiment. Before you are aware of what you are about you will be moving your head from right to left in order to place your single eye in the relative positions which the two should occupy, in order to correctly determine the exact locality of the candle.

The object of the stereoscope is to deceive the judgment, and make absolutely flat surfaces appear to be rotund or projecting figures. This is accomplished by making two pictures to correspond to the two images that would be painted upon the two eyes were they before the objects instead of the two cameras. Although these two pictures appear to be perfectly alike, they are not so; the difference being exactly that which would appear had the right-hand picture been painted upon the retina of the right eye, and the left-hand picture on the retina of the left eye.

These pictures, so taken, are now placed in a stereoscope, which is furnished with two eye-pieces, containing lenses, so constructed that the rays proceeding from the respective pictures to the corresponding eye-pieces, shall be bent outward, at just such an angle as each set of rays would have formed had they proceeded to the eyes from a single picture, placed in the centre of the box, without the intervention of lenses.

We trust our young readers will carefully peruse what we have written, experiment with the eyes as we have suggested, and then more carefully view the pictures in the stereoscope; and if they are at all inclined to look into the philosophy of things, we are persuaded they will enjoy the pleasure and instructions of this beautiful little instrument more than over before.

A MAMMOTH ARTESIAN WELL AT PARIS.—A monster artesian well is now being put down in the city of Paris. This well is a trifle over six feet in diameter in the clear, and is now down about 150 feet. The first seventy-two feet of the shaft are lined with masonry; then succeeds iron tubing, in sections six feet and seven inches, and three feet three inches in diameter, and three feet three inches in height, forced down by same pressure. When this lining had been forced down to a depth of about 160 feet in all, a strata of quicksand was reached, which was so fully saturated with water as to admit of the passage of an underground current through the mass. This current, though slow in its motion, yet flowing under great pressure, was sufficient to drive the tube out of its perpendicular, so much so that it was found necessary to draw it. Resort was finally had to masonry laid up as follows: A strong cradle was suspended from the top of the shaft, a depth of a few feet excavated in the bottom, the cradle sunk into it, and masonry built up upon it as quick as possible. Thus completed, another section was gained in like manner. The work was prosecuted in that manner until firmer ground was reached. The work of sinking is now done by boring machinery, which weighs five tons and is composed of six branches. The wall will be carried down, if possible, with its present diameter, to a depth sufficient to allow the water to reach the surface. If the work should be successful, it will furnish a vast amount of water.

A CHURCH is a place where some people take lodging an hour or two once or twice a week.

Mechanical.

THE SCREW APPLIED TO THE PADDLE WHEEL. Several parties have been experimenting with in a few years past, here in California, in New York and in Europe, to devise some method for the application of the principle of the screw to the floats of paddle wheels for propelling steamboats. This application was conceived and tried by Dr. Croft of London, Eng., some two or more years ago, who obtained the most satisfactory results in his experiments with working models. The two kinds of floats have also been compared and tested with larger boats, with equal success. A boat, English built, with paddles similarly constructed, has been running on the Pacific side of the coast of Panama, for a year or two. In all experiments tried, we believe the screw model has been proven practically superior to the flat floats. Early in the year 1865, Prof. W. G. Adams, an English mathematician, furnished an elaborate paper to the *Philosophical Magazine* of London, in which he proved, by mathematical demonstration, that the superiority of the screw shape over the flat float was as correct in theory as in practice.

A NAVAL POWER.—A novel kind of power is employed for unloading ships at the Newport docks in Monmouthshire, England, and at some other places for other hoisting purposes. A water engine is used, and in the absence of the requisite "fall," the pressure otherwise obtained from natural sources is got at by a pressure of from 70 to 100 tons of gravel, as a weight, upon a short column of water, thereby giving a pressure equivalent to some 1,500 feet head. The power is kept up by using a small steam engine to pump the water into the reservoir, and the weight of sand, after being depressed by use, is again elevated by hydraulic power at a very small cost. The power may be distributed much more readily than steam power, to different localities in the vicinity of the main reservoir.

By the use of this machinery, the *Railway News* says that coal, which formerly cost 5d. to 7d. per ton for delivery, can now be delivered for 1½d.

NEW APPLICATION OF WATER PRESSURE.—At a meeting of the Paris Academy of Sciences, a communication from M. L. D. Girard has been read, on the application of water-pressure to the bearings of the fly-wheel of a rolling machine, weighing 35,000 kilogrammes (about 34½ tons). The principle consists in admitting water having a pressure corresponding to the weight of the axle and wheel, etc., under those parts of the axle which are supported by the bearings. It was found that, when the bearing surfaces of the axle were merely greased, the co-efficient of friction was 10 per cent; but that, when water was admitted under the axle, and the rising of the latter permitted the escape of the fluid across the whole of the bearing surfaces, the co-efficient became 0.001, and in ordinary circumstances did not rise above 0.003. The water had a pressure of ten atmospheres, derived from air condensed in the reservoir containing it. At starting the axle bearings are merely greased, and only a certain velocity can then be attained; but, the instant the water is turned on, the velocity becomes greatly accelerated. This contrivance appears specially adapted to the support of great weights moving with high velocities. The French Minister of Marine has caused it to be applied to the bearings of the screw-propeller of a steam-tug. —*Scientific Review, Eng.*

GLASS BLOWING.—Glass-blowing, in its simpler adaptations, is very easy of acquirement, and capable of affording much recreation at a small expense. Even cold glass may be worked with a facility known to few. It may be drilled in holes very easily, the only implement needed being a common watchmaker's drill stock. A steel drill, of good quality, well hardened, will do the business perfectly; and, even if the edge of the tool should give way before the hole is pierced through, a little emery-powder and oil will remove every difficulty; or, with the help of these, the hole may be bored with a copper drill. Not only so—glass may even be turned in a lathe. Any amateur turner who has operated on either of the metals may chuck a piece of glass in his lathe, and turn it with the same tools and in the same way as he would a piece of steel, only taking care to keep the chips from his eyes.

CAST IRON AND STEEL.—A NEW THEORY OF ALLOYS.—Recent experiments in Europe, seem to establish the fact that alloys do not consist of a mere mechanical combination of the particles of one metal with another; but that the union is a chemical one—that one metal is dissolved in the other, as sugar is dissolved in water. M. Jullien has recently communicated to the Paris Academy of Sciences, the result of some experiments which he combines under the head of "New Facts on Cast Iron and Steel." His object has been to demonstrate:

1st, that metals do not combine with each other; 2nd, that iron does not combine with either carbon, silicon, or nitrogen; and 3d, that a mixture of hydrate of lime and dry hydrated sulphate of soda presents all the characters of a solution, but none of those of combination. M. Jullien then gives his ideas on the constitutions of irons and steels. Liquid cast iron, he says, is a solution of liquid carbon in liquid iron. Soft steel is a solution of amorphous carbon in either amorphous or crystallized iron. Grey pig obtained by casting in hot moulds or sand, is a mixture of graphite and steel, the components, iron and carbon, being both in the amorphous state.

A MAMMOTH TUNNEL ENTERPRISE IN EUROPE.—While we on the Pacific slope are talking about a "mammoth enterprise," to tap the great Constock vein with a tunnel, which, when completed, will be less than four miles long, the miners at Freiberg, in Saxony, are making arrangements to drain their principal mining district by a tunnel, which will be some fifteen miles in length. The work has already been several years in progress. It is expected that forty years longer will be required to complete the undertaking.

DEEP WELLS.—Few persons are aware of the enterprise and energy displayed in efforts to procure water for the traveling public on the deserts and other places east of the Sierra, where natural springs or streams of water are wanting. There are some three or four wells some fifteen or twenty miles from Aurora, on the road to the Adobe Meadows, between three and four hundred feet deep. In one of these wells, 335 feet deep, the water is hot. It is drawn up, and cooled over night. The water is of a very fair quality, and is sold at the rate of twenty-five cents per bucket.

A TRIAL OF AN ENGLISH TURRET PROPOSED. The British Admiralty have determined to give the monitor system a severe trial by firing a steel bolt at one of the turrets at short range from an Armstrong 10-inch or 300-pounder gun. It is to be remembered that the English turrets are not precisely like ours. They are made of wood, with an iron plating, while ours are all iron. The English construction is adhered to in order to have a difference, in spite of the fact that this difference brings with it some decided inferiority.

RAILWAY BUILDING IN EUROPE.—French railways are so mapped out for the future, that during the next seven years, the work of road-making will proceed at the rate of 500 miles per annum. The French demand for railway material can, therefore, be calculated with great nicety. The miles of railway built in Great Britain and Ireland last year, was about 500 miles, the same figure as the contemplated annual increase of railway mileage in France.

A UNILER heated by petroleum, lately set up at Woolwich Dockyard, England, vaporized 3,000 pounds of water in three hours, at the rate of one pound of fuel to thirteen and a half pounds of water. The lowest class of English oil was used, and gave a flame more voluminous than intense.

The evaporative value of a fluid can be better calculated from a careful chemical analysis, than by testing it under a boiler as fuels consist of carbon and hydrogen. Carbon has an evaporative power of 15, and hydrogen of 69. Multiply these by the respective amounts of them in the fuel, take the sum, and this will be the best possible evaporative value of the fuel.

The friction of a smooth disk revolving in water is about 2.150th of its weight.

A FORTUNATE FIND.—A casket of diamonds and other valuable jewels were found near Nashville on the 27th of June. Their value is estimated at \$80,000. Samuel J. Ringold was the finder. There were no marks found which could indicate who the jewels belonged to. They had evidently been lying for several years just under the surface of the ground.

Scientific Miscellany.

CHANGES ON THE MOON'S SURFACE.—The Rev. T. W. Wehh has recently called the attention of the "British Association" to a remarkable valley in the northern part of the moon, which Schroter, the old Hanoverian astronomer, had observed, drawn, and named Cassini. Mr. Webb identified this valley in January, 1865. Mr. Birt has since examined that portion of the moon carefully, compared it with Schroter's drawing, and ascertained that if Schroter's drawing was made correctly, enormous changes must have taken place on the surface of the moon during the past thirty years! Careful photographs are now being taken of the moon, at short intervals, and will be continued in the future, with the hope that by such means changes, if any are occurring, may be noted and their time fixed and character determined.

In this connection we may state that, among the noble uses to which female genius may be put, is that of watching and copying the subtle changes which pass over the face of nature. Acting upon this suggestion, Miss Beckly, a daughter of the mechanical assistant in the observatory at Kew, England, is thus employed; her special field of observation being the sun, all the changes on which she records from day to day, by means of his light. During the day she watches for opportunities for photographing the sun, with that patience for which the sex is distinguished; and we have the authority of the President of the Astronomical Society for saying, that she never lets an opportunity escape her. It is extraordinary, that even on very cloudy days, between gaps of clouds, when it would be imagined that it was almost impossible to get a photograph, there is always a record at Kew.

COSMICAL DUST.—The celebrated Dr. Reichenbach, of Vienna, thinks he has discovered a genuine "universal powder," or dust, which pervades all interplanetary space, and which, when it becomes agglomerated, forms large or small meteorolites, while at other times it reaches the surface of our earth in the form of an impalpable powder. We know that meteorolites are mainly composed of nickel, cobalt, iron, phosphorus, etc. Well, Dr. Reichenbach went to the top of a mountain, which had never been touched by a spade or pickaxe, and collected there some dust, which he analyzed, and found it to contain nickel, cobalt, phosphorus and magnesia. People have wondered where the minute quantity of phosphorus, so generally distributed on the surface of the earth, came from. The doctor, however, has discovered it in the mysterious invisible rain, which henceforth must be looked upon as quite as necessary for vegetation as the water which falls from the clouds.

A STREAM OF MALACHITE.—A stream of malachite (green carbonate of copper in solution) is said to have recently made its appearance in Cornwall, England. A stream of water issuing from several lodes of hematite and white iron ore, has suddenly changed its appearance from the red color produced by red oxyd of iron to a green color, and now presents a stream of the strongest copper or mineral water ever seen probably in any country; in fact the whole beach where this stream runs over, and everything it comes in contact with, are as green as malachite, to the astonishment of every one who has seen it, and quite a sensation has been caused in the neighborhood. The inference is that something volcanic has occurred, and that this water is issuing from a great deposit of copper ore not yet discovered in some of the parallel lodes.

THE COLOR OF WINE.—The red color of wine can be proved to be artificial or true by simply dipping a small piece of bread or sponge into the liquid and placing it in a glass of clear water. If the color is artificial the water will be at once colored, but pure wine will not color it for half an hour or more. The sponge should be well washed beforehand.

OZONE is found to be developed by the mechanical action of blowing machines—a fact which may partly account for the healthfulness of winds.

PLATINUM MIRRORS.—SOMETHING NEW.—A process has been patented in France by M. Dode, a chemist, for the manufacture of platinum mirrors, which are greatly admired, and which present this advantage, that the reflecting metal is deposited on the outer surface of the glass, and thus any defect in the latter is concealed. The process is very expeditious. A single baking, it is said, will furnish 200 metres of glass ready for commerce. It would take fifteen days to coat the same extent with mercury by the ordinary plan. A reduction of from 40 to 100 per cent, in cost of looking glass is expected to result from the adoption of this process; for any glass, even the common bottle metal, will serve to be coated. The process is conducted as follows: "Chloride of platinum is dissolved in water, and a certain quantity of oil of lavender is added to the solution. The platinum immediately leaves the aqueous solution and passes to the oil, which holds it in suspension in a finely-divided state. To the oil so charged litharge and borate of lead are added, and a thin coat of this mixture is painted over the surface of the glass, which is then carried to a proper furnace. At a red heat the litharge and borate of lead are fused and cause the adhesion of the platinum to the softened glass." —*Mechanics Magazine.*

CRYSTALLIZATION OF IRON.—Under the influence of reiterated trepidation the iron of rails constantly gone over by rapid trains assumes a crystalline form; the axles of the wheels do the same, and the places towards which the least coherent particles converge during this continual vibration become the points where fracture occurs. The repeated explosion of gunpowder in the chamber of a piece of ordnance modifies the cohesion of its metallic particles, and at length causes the fracture of the mass. According to M. Kuhlmann, a tenacious fibrous quality of sheet iron, out of which a steam boiler was made, in a short time became crystalline and brittle by the constant trepidation caused by the evolution of steam.

PRESERVING GRAIN.—A new system of preserving grain has recently been adopted in France. The grain, flour, biscuit, etc., is placed in large iron cylinders, from which the air is subsequently so much exhausted as to render it so rarified as to destroy even the weevil, the most difficult of all corn parasites to subdue. During a six months' trial none were developed. The apparatus is considered available for any length of time, and under the most unfavorable circumstances.

PHOTOGRAPHY IN COLORS has progressed so far that a doll dressed by the operator can be perfectly reproduced on the plates. A greater triumph is photographing a peacock's feather. It has been found that none but pure colors take well, those that are made by a mixture of two primary colors giving but one of the primaries on the plate. These photographs will not stand a full light long, as they turn brown, but may be preserved in an album.

The outer covering of the bulb of the *anemole*, or California soap plant, has been applied to a useful purpose. It is now being collected in considerable quantity and sent to this city, where it is used for filling mattresses, and in the manufacture of brushes.

An error in placing a fine dot which fixes the length of a base line in astronomical measurements, amounting to 1-5000th part of an inch, will amount to an error of seventy-six feet in calculating the diameter of the earth, 360 miles in the sun's distance, and 65,800,000 in the distance of the nearest fixed star.

If a tube connected with water, and a solid rod also connected with water, be applied at once to the ears, sound will be heard only in the ear supplied with the tube. The reason is that the tube is so much the better conductor that it kills whatever sound is transmitted through the rod.

It has lately been discovered that the whole of the sulphur, used at present in illuminating gas (and which makes that gas so offensive) may be removed by bringing it in contact with the ammoniacal liquor which is an almost worthless product of the same gas works.

A VIENNESE philosopher is experimenting upon the transportation of ponderable bodies by electricity, so that the old fable of the soldier who sent his shoes home for exchange by hanging them on the telegraph wire, may be realized.

ANILINE.—It requires as many as 2,000 tons of coal to produce a circular hock of aniline twenty-four inches high by nine inches wide, but this is sufficient to dye three hundred miles of silk fabric.

When water is hoiled under oil and the steam collected and condensed a bubble of gas remains, which is found to be nitrogen, proving the absorptive power of water upon gases.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Friday, July 20.

AFTERNOON SESSION.

4 shs Savage at \$95 per foot.
 1 sh Savage at \$90 per foot, b. 3.
 74 shs Ophir at \$260 per foot.
 24 shs Ophir at \$280 per foot, s. 3.
 5 shs Yellow Jacket at \$530 per foot.
 4 shs Yellow Jacket at \$575 per foot, s. 3.
 1 sh Yellow Jacket at \$560 per foot, s. 10.
 4 shs Yellow Jacket at \$562½ per foot, b. 3.
 4 shs Gould & Curry at \$700 per foot.
 4 shs Crown Point at \$80 per foot.
 15 shs Overman at \$39½ per share, s. 30.
 20 shs Overman at \$40 per share, b. 30.
 107 shs Overman at \$37½ per share.
 10 shs Overman at \$38½ per share, h. 3.
 45 shs Overman at \$38½ per share, b. 30.
 45 shs Overman at \$41½ per share, s. 3.
 5 shs Overman at \$39 per share, s. 15.
 25 shs Confidence at \$58 per share.
 10 shs Confidence at \$52½ per share, s. 30.
 5 shs Confidence at \$57½ per share, h. 30.
 5 shs Confidence at \$55 per share, s. 3.
 5 shs Imperial at \$97 per share, h. 30.
 50 shs Sierra Nevada at \$5 per share, s. 3.
 15 shs Sierra Nevada at \$5 per share, b. 3.
 \$1,000 Legal Tender Notes at 71½¢
 Amount of sales.....\$ 31,628 00

Saturday, July 21.

180 shs Ophir at \$285 per foot.
 12 shs Ophir at \$285 per foot, s. 3.
 12 shs Ophir at \$280 per foot, b. 3.
 8 shs Crown Point at \$775 per foot.
 2 shs Savage at \$900 per foot.
 2 shs Yellow Jacket at \$550 per foot.
 8 shs Yellow Jacket at \$550 per foot, s. 3.
 2 shs Yellow Jacket at \$570 per foot, h. 30.
 4 shs Gould & Curry at \$700 per foot.
 4 shs Gould & Curry at \$695 per foot, s. 3.
 6 shs Chollar-Potosi at \$192 per foot, h. 30.
 4 shs Chollar-Potosi at \$185 per foot, s. 3.
 343 shs Overman at \$23½ per foot.
 40 shs Overman at \$35½ per share, s. 3.
 35 shs Overman at \$35 per share, s. 10.
 10 shs Overman at \$36 per share, b. 3.
 50 shs Overman at \$35½ per share, s. 10.
 25 shs Overman at \$36½ per share, b. 5.
 35 shs Overman at \$34½ per share, s. 30.
 20 shs Overman at \$38½ per share, b. 30.
 6 shs Overman at \$36 per share, b. 15.
 15 shs Confidence at \$53 per share, s. 3.
 2 shs Imperial at \$94 per share.
 1 sh Cal Steam Nav Co at \$60 per cent, s. 5.
 \$3,000 Legal Tender Notes at 71½¢, s. 3.
 Amount of sales.....\$ 39,762 00

Monday, July 23.

2 shs Yellow Jacket at \$76 per foot.
 5 shs Yellow Jacket at \$75 per foot, s. 3.
 1 sh Yellow Jacket at \$75 per foot.
 1 sh Yellow Jacket at \$80 per foot, b. 30.
 3 shs Yellow Jacket at \$72½ per foot, s. 3.
 1 sh Yellow Jacket at \$71 per foot, c.
 3 shs Belcher at \$145 per foot, h. 5.
 12 shs Ophir at \$300 per foot.
 12 shs Ophir at \$295 per foot.
 12 shs Ophir at \$292½ per foot.
 12 shs Ophir at \$294 per foot, s. 3.
 24 shs Ophir at \$292½ per share.
 1 sh Chollar-Potosi at \$184 per foot, s. 5.
 8 shs Chollar-Potosi at \$184 per foot.
 5 shs Chollar-Potosi at \$185 per foot.
 1 sh Savage at \$900 per foot.
 1 sh Savage at \$905 per foot.
 40 shs Overman at \$35½ per foot, s. 3.
 35 shs Overman at \$35 per share.
 25 shs Overman at \$36 per share.
 5 shs Overman at \$37½ per share.
 35 shs Overman at \$38½ per share, s. 3.
 5 shs Overman at \$40 per share, b. 10.
 10 shs Overman at \$42½ per share, h. 30.
 15 shs Overman at \$40 per share.
 12 shs Overman at \$40 per share, s. 5.
 35 shs Overman at \$39 per share.
 20 shs Overman at \$39½ per share.
 5 shs Overman at \$39 per share, b. 10.
 23 shs Sierra Nevada at \$5¼ per share.
 12 shs Bullion at \$45 per share.
 5 shs Bullion at \$44 per share.
 5 shs Imperial at \$90 per share.
 5 shs Confidence at \$54 per share, s. 3.
 5 shs Lady Bryan at \$1 per share.
 10 shs Federal Hope at \$25 per share.

AFTERNOON SESSION.

2 shs Yellow Jacket at \$80 per foot.
 1 sh Yellow Jacket at \$77½ per foot.
 1 sh Yellow Jacket at \$95 per foot, h. 30.
 1 sh Chollar-Potosi at \$185 per foot.
 10 shs Confidence at \$52½ per share, s. 3.
 5 shs Confidence at \$48 per share, s. 30.
 12 shs Confidence at \$53½ per share.
 5 shs Confidence at \$53 per share, s. 3.
 20 shs Confidence at \$56 per share, s. 30.
 30 shs Overman at \$38½ per share.
 20 shs Overman at \$40½ per share.
 10 shs Overman at \$42½ per share, h. 30.
 15 shs Overman at \$42½ per share, s. 3.
 10 shs Overman at \$43½ per share.
 5 shs Overman at \$46 per share, h. 30.
 15 shs Overman at \$44 per share, s. 3.
 10 shs Overman at \$44 per share, h. 3.
 50 shs Overman at \$44 per share.
 20 shs Overman at \$47 per share, h. 30.
 5 shs Bullion at \$47 per share.
 8 shs Bullion at \$45 per share.
 8 shs Imperial at \$93 per share.
 5 shs Sierra Nevada at \$5½ per share.
 Amount of sales.....\$ 48,398 00

Tuesday, July 24.

1 sh Yellow Jacket at \$95 per foot, s. 3.
 5 shs Yellow Jacket at \$95 per foot.
 1 sh Yellow Jacket at \$65 per foot, h. 30.
 18 shs Ophir at \$275 per foot.
 8 shs Belcher at \$140 per foot, s. 3.
 1 sh Belcher at \$140 per foot, s. 3.
 1 sh Belcher at \$140 per foot, b. 3.
 12 shs Belcher at \$100 per foot.
 1 sh Chollar-Potosi at \$185 per foot.
 4 shs Gould & Curry at \$725 per foot.
 4 shs Gould & Curry at \$725 per foot.

SAN FRANCISCO, SATURDAY MORNING, July 28th, 1866.

The Money market has undergone no material change since our last reference. A slightly increased activity is perceptible in some quarters, growing out of an interior requirement for the movement of the crops, but capital is very abundant, and readily found upon good paper and other collateral at 1½¢ per month in bank.

Receipts of treasure from the interior mining districts continue good, and for the month of July will exceed \$4,200,000.

The market is well supplied with bullion, and the demand not active as yet for Monday's steamer. Gold bars have been taken to account this week at \$70@80, and Silver is ranging from ¼¢ discount to ¾¢ premium—the latter for choice bars.

The rates of Exchange on the East do not vary materially from those ruling last week. Currency bills on the Atlantic are offered at 44¢ cent. premium on gold. Sight drafts, payable in coin, are selling at 2@2¼¢ cent. premium, and Telegraphic Transfers are made at 2¼¢ cent. premium. Sterling Exchange is quotable at 48¼¢@48½¢, for best Bankers' bills.

Legal Tenders have been active at 71@71½¢, closing at about 71¢. Our latest telegraphic advices from the East quote Gold at 149 in New York, on the 21st instant.

The Share Market presents a rather more cheerful view than at the close of last week. A number of leading stocks have been dealt in at higher prices, and are strongly held at the close. Nearly all productive mines on the Comstock are looking as well as at any former period during the year, and their net earnings for this month will exceed those of June.

City shares for the most show a slight improvement, and are not freely offered except at full rates. California Steam Navigation Company rose from 60 to 65, and then sold at 66. Spring Valley was sold at \$65 per share, and North Beach and Mission R. R. at \$45. For Omnibus R. R. \$52 is bid. Fireman's Fund Insurance is offered at 114; Pacific Insurance at 178, and National at 78. San Francisco Gas is inquired for at 119, and State Telegraph at 31 per share.

Hale & Norcross is in decided favor, and very firmly held. Small sales were made at \$1,425, seller 30, closing at \$1,500 asked. Advices from different portions of this mine are exceedingly favorable. A connection has been made between the north and south stopes on the 12th floor of the 700-foot level, and in breasting out toward the south, on the 535-foot level, the lode continues to improve. The yield of bullion, from the 1st to the 23d instant, exceeded \$100,000, and the aggregate receipts for the month will probably reach \$130,000.

Savage is also in better request, advancing from \$897½ to \$960, and then selling at \$950. During the week ending 21st inst. 717 tons of ore were extracted, and 822 tons shipped from the mine. The company have now some \$50,000 at their credit, and a dividend will soon be declared for the month of July.

Gould & Curry met with trifling sales at \$695@745, closing at \$705. The 100-foot level (1st station below lower tunnel) is thought to look quite promising, the ore appearing to grow wider, and some portions richer. The quartz on the 2d station in which the incline is started is said to present favorable indications for a body of ore, but as yet metal has been found only in small spots. If ore should be met

with at that point it would be a new development, and one of importance. Receipts of bullion to the 25th instant amounted to \$93,000, and the aggregate for the current month will exceed \$125,000.

Crown Point rose from \$745 to \$840, and closed at about \$875 asked. Improvements to the shaft will be completed this month, and the Rhode Island mill will probably be running on the 5th proximo. From the "croppings" through the old tunnel, at a depth of 70 feet from the surface, 65 to 70 tons of ore are now taken daily. The bullion yield of the company for July will amount to some \$50,000, leaving a handsome surplus on hand.

Yellow Jacket rose from \$550 to \$590, and then sold at \$570@565. The total receipts of the company for the year ending June 30th last, amounted to \$2,072,814. The yield of 53,526 tons 1st and 2d-class ore worked, was \$1,690,394—an average of \$32.50 per ton; and 1,479 tons 3d-class ore were sold at \$3.20 per ton. From assessments levied \$300,000 were derived. The indebtedness of the company, June 30th, 1865, was \$379,771.55, and the total expenses from that date to June 30th, 1866, amounted to \$1,550,127, leaving a balance on hand at the close of the year of \$142,915.38. During the two weeks ending 16th and 23d instants, 4,126 tons of ore were reduced, yielding \$105,836.27, making an aggregate of \$154,348 for the first three weeks of this month.

Ophir is in less favor, and some 150 feet were dealt in, advancing from \$285 to \$300, receding to \$240, and then selling at \$242@245. But little work has been done this week upon ore in the 8th gallery, owing to the timbering of a track connecting the drift with the vein. Receipts of bullion for July will amount to some \$50,000, giving a fair profit over all expenses.

Chollar-Potosi was inactive and dull until yesterday, advancing from 184 to 190, dropping to 180, and closing at \$177. The Piute station is said to look as well as formerly. In the northern part of the Bajazette Ground ore is being taken down within ten feet of the Hale & Norcross line. This body of ore is 40 feet in depth, and a portion of it good quality. The Santa Fe station continues to produce some fine ore. The 1st station drift north from the new shaft is in hard ground, and progressing slowly. The 2d station drift north branch is 326 feet, and the south branch 272 feet. During the week ending 21st instant, 796½ tons of ore were sent to custom mills.

Belcher fell from \$160 to \$140, and closed at \$140 asked. Alpha was dealt in at \$99@100, and Empire Mill and Mining company at \$115@112, the latter closing with more firmness.

Imperial met with trifling sales at \$94@90, closing at \$91. Receipts of bullion for the first three weeks of the month amounted to \$36,809, and the aggregate for July will probably exceed \$60,000. A body of low grade ore, 40 feet wide, has been found at a depth of 150 feet from the surface, in what is known as the red ledge of the Alta mine, and from the Holmes' ground efficient is being taken to keep the Gold Hill mill constantly at work.

Nearly 3,000 shares of Overman have been sold within a range of \$32@49, closing at \$36. Confidence fell from \$55 to 50½¢, and then sold at \$55. Bullion was dealt in at \$47@49, closing at \$47.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$314,292.

Wednesday, July 25.

125 shs Sierra Nevada at \$6 per share.
 115 shs Overman at \$36½ per foot.
 5 shs Overman at \$41 per share, b. 4.
 15 shs Overman at \$39½ per share, s. 3.
 15 shs Overman at \$41½ per share, b. 10.
 10 shs Overman at \$42 per share, h. 30.
 15 shs Overman at \$40½ per share, s. 10.
 5 shs Overman at \$40 per share, s. 5.
 25 shs Overman at \$40 per foot, h. 3.
 5 shs Overman at \$39 per share, s. 3.
 5 shs Bullion at \$47 per share, b. 10.
 9 shs Imperial at \$91 per share.
 25 shs Confidence at \$53½ per share, b. 30.
 15 shs Confidence at \$50½ per share.
 20 shs Confidence at \$50 per share, s. 30.
 20 shs Confidence at \$50½ per share, s. 3.
 12 shs Ophir at \$270 per foot.
 36 shs Ophir at \$260 per foot.
 12 shs Ophir at \$255 per foot.
 12 shs Ophir at \$255 per foot.
 5 shs Overman at \$39 per share.
 10 shs Overman at \$41 per share, s. 3.
 5 shs Overman at \$41 per share, s. 5.
 5 shs Overman at \$42 per share, s. 3.
 45 shs Overman at \$44 per share, s. 3.
 20 shs Overman at \$45 per share.
 35 shs Overman at \$47 per share.
 5 shs Overman at \$47½ per share.
 5 shs Overman at \$47 per share, s. 3.
 35 shs Overman at \$48 per share.
 60 shs Overman at \$48 per share, s. 3.
 15 shs Overman at \$46 per share, b. 3.
 25 shs Overman at \$45 per share, s. 3.
 5 shs Overman at \$44 per share, s. 30.
 35 shs Overman at \$45 per share, s. 10.
 20 shs Overman at \$44 per share, s. 10.
 20 shs Overman at \$44 per share, b. 3.
 20 shs Overman at \$44 per share, h. 3.
 15 shs Overman at \$43½ per share, s. 3.
 15 shs Overman at \$45 per share, h. 3.
 10 shs Overman at \$45½ per share, h. 3.
 5 shs Overman at \$46 per share, h. 3.
 10 shs Overman at \$45 per share, s. 30.
 5 shs Overman at \$46 per share.
 25 shs Cal Steam Nav Co at \$65 per cent.
 \$1,000 Legal Tender Notes at 71½¢ per cent.
 \$5,000 Legal Tender Notes at 71½¢ per cent, b. 2.
 \$5,000 Legal Tender Notes at 71½¢ per cent, h. 2.
 Amount of sales.....\$ 54,933 00

4 shs Hale & Norcross at \$125 per foot, s. 30.
 1 sh Savage at \$90 per foot.
 1 sh Savage at \$95 per foot, c.
 2 shs Savage at \$90 per foot.
 1 sh Savage at \$950 per foot, s. 30.
 2 shs Savage at \$900 per foot, c.
 24 shs Ophir at \$260 per foot, s. 3.
 36 shs Ophir at \$265 per foot, s. 30.
 12 shs Ophir at \$283½ per foot, c.
 12 shs Ophir at \$27½ per foot, s. 10.
 12 shs Ophir at \$259 per foot, s. 3.
 103 shs Ophir at \$260 per foot.
 4 shs Alpha, G. H., at \$100 per foot.
 8 shs Alpha, G. H., at \$100 per share, s. 6.
 4 shs Gould & Curry at \$745 per foot.
 3 shs Chollar-Potosi at \$185 per foot, h. 3.
 2 shs Yellow Jacket at \$585 per foot.
 55 shs Sierra Nevada at \$4 per share.
 5 shs Overman at \$43½ per share.
 45 shs Overman at \$46½ per share, s. 3.
 48 shs Overman at \$46½ per share, s. 3.
 20 shs Overman at \$47½ per share, s. 3.
 5 shs Overman at \$46 per share, s. 30.
 5 shs Overman at \$47 per foot, s. 5.
 15 shs Overman at \$50 per share, h. 30.
 60 shs Overman at \$46½ per share, s. 30.
 5 shs Overman at \$47½ per foot, s. 3.
 22 shs Overman at \$49 per share.
 10 shs Overman at \$50 per share.
 15 shs Bullion at \$49 per share.
 2 shs Empire M. & M. Co. at \$115 per share.
 3 shs Empire M. & M. Co. at \$112½ per share.
 5 shs Confidence at \$51 per share, s. 30.
 5 shs Confidence at \$55 per share, s. 3.
 100 shs N. B. & Mission R. R. at \$45 per share.
 13 shs Cal Steam Nav Co at \$65 per cent.
 \$50,000 Legal Tender Notes at 71½¢.

AFTERNOON SESSION.

1 sh Savage at \$945 per foot.
 1 sh Savage at \$965 per foot, h. 30.
 1 sh Savage at \$970 per foot, b. 30.
 1 sh Savage at \$975 per foot, h. 30.
 1 sh Savage at \$960 per foot.
 4 shs Crown Point at \$840 per foot.
 12 shs Alpha, G. H., at \$100 per foot.
 24 shs Ophir at \$260 per foot.
 36 shs Ophir at \$265 per foot, h. 10.
 12 shs Ophir at \$260 per foot, s. 30.
 36 shs Ophir at \$265 per foot.
 12 shs Ophir at \$270 per foot, h. 10.

24 shs Ophir at \$272½ per foot, b. 10.

12 shs Ophir at \$270 per foot, b. 3.

24 shs Ophir at \$270 per foot.

5 shs Overman at \$48 per share, b. 30.

80 shs Overman at \$47½ per share.

40 shs Overman at \$47½ per share, s. 30.

5 shs Overman at \$47½ per share, b. 3.

25 shs Overman at \$47 per share, s. 30.

25 shs Overman at \$47 per share.

10 shs Overman at \$49 per share, h. 30.

25 shs Overman at \$47 per share, b. 3.

10 shs Exchequer at \$3½ per share.

5 shs Confidence at \$53 per share.

5 shs Confidence at \$54 per share.

25 shs Spring Valley W. W. Co at \$65 per cent.

Amount of sales.....\$ 64,747 00

Thursday, July 26.

12 shs Ophir at \$265 per foot.

12 shs Ophir at \$262½ per foot.

12 shs Ophir at \$260 per foot.

12 shs Ophir at \$255 per foot.

12 shs Ophir at \$257½ per foot, b. 5.

72 shs Ophir at \$260 per foot, h. 30.

12 shs Ophir at \$260 per foot, b. 10.

48 shs Ophir at \$250 per foot.

103 shs Ophir at \$250 per foot, s. 3.

12 shs Ophir at \$250 per foot, s. 10.

24 shs Ophir at \$260 per foot, c.

12 shs Ophir at \$250 per foot, s. 30.

21 shs Chollar-Potosi at \$185 per foot.

1 sh Yellow Jacket at \$650 per foot, c.

1 sh Yellow Jacket at \$590 per foot.

1 sh Yellow Jacket at \$65 per foot, s. 10.

2 shs Yellow Jacket at \$600 per foot, b. 30.

105 shs Overman at \$40½ per share.

45 shs Overman at \$40 per share, s. 30.

45 shs Overman at \$41½ per share, b. 3.

15 shs Overman at \$40½ per share, s. 5.

30 shs Overman at \$40½ per share, c.

60 shs Overman at \$40½ per share, s. 3.

10 shs Overman at \$41 per share, b. 5.

5 shs Confidence at \$53½ per share.

25 shs Confidence at \$55 per share.

5 shs Confidence at \$54 per share, s. 3.

5 shs Bullion at \$49 per share.

5 shs Imperial at \$91 per share, s. 30.

10 shs Imperial at \$91 per share, c.

50 shs Union Insurance at \$121 per cent.

2 shs Cal Steam Nav Co at \$60 per cent, s. 60.

1 sh Cal Steam Nav Co at \$65 per cent, s. 6.

\$1,580 Legal Tender Notes at 71½¢.

AFTERNOON SESSION.

3 shs Chollar-Potosi at \$189 per foot.

1 sh Chollar-Potosi at \$190 per foot.

12 shs Ophir at \$260 per foot, b. 30.

24 shs Ophir at \$250 per foot.

24 shs Ophir at \$250 per foot, h. 30.

12 shs Ophir at \$247½ per foot.

12 shs Ophir at \$245 per foot.

12 shs Ophir at \$243 per foot, s. 3.

12 shs Ophir at \$245 per foot.

48 shs Ophir at \$242½ per foot.

12 shs Ophir at \$241 per foot.

24 shs Ophir at \$240 per foot, s. 3.

1 sh Savage at \$970 per foot.

4 shs Alpha, G. H., at \$100 per foot.

5 shs Overman at \$44 per share, h. 30.

20 shs Overman at \$43 per share.

10 shs Overman at \$42 per share, b. 10.

15 shs Overman at \$41½ per share, s. 3.

15 shs Overman at \$41 per share.

15 shs Overman at \$40½ per share.

30 shs Overman at \$40 per share.

25 shs Overman at \$39 per share.

5 shs Overman at \$39 per share, s. 10.

5 shs Overman at \$40 per share, b. 5.

5 shs Overman at \$39 per share, s. 30.

15 shs Overman at \$39½ per share, s. 3.

11 shs Bullion at \$48 per share.

10 shs Bullion at \$48½ per share, b. 3.

Amount of sales.....\$ 42,890 00

Friday, July 27.

84 shs Ophir at \$218½ per foot.

14 shs Ophir at \$242½ per foot.

5 shs Ophir at \$242½ per foot.

5 shs Ophir at \$242½ per foot.

40 shs Ophir at \$242½ per foot.

40 shs Chollar-Potosi at \$192½ per foot.

20 shs Chollar-Potosi at \$195½ per foot, b. 30.

10 shs Chollar-Potosi at \$183 per foot, s. 10.

3 shs Yellow Jacket at \$575 per foot, s. 30.

3 shs Yellow Jacket at \$570 per foot.

1 sh Savage at \$950 per foot.

1 sh Savage at \$980 per foot, h. 30.

88 shs Exchequer at \$6 per share.

45 shs Sierra Nevada at \$6¼ per share.

5 shs Bull

AMERICAN MINING STUDENTS IN EUROPE.
It is said that there are now, or were before the commencement of the present European war, thirty-five American students at the celebrated school of mines in Freiberg—more than a third of the whole number in attendance. About half this number are said to be hard-working and studious young men, who appreciate our need of intelligent mining engineers and who are determined to do what they can to worthily fill that want. One-quarter of the whole number are taking life easily, while the other half appear to be profiting but little, if anything, from the advantages placed before them. A college at home is bad enough; but an institution of that kind abroad, and in a community where little moral restraint is thrown around the young men, there is no limit to the recklessness which may be indulged in by those who have plenty of money and but little self-restraint. We quote the above from a correspondent of the Chicago Tribune, who has recently visited Freiberg.

OLD MINES RE-DISCOVERED.—In Brazil, in the town of Rio Grand do Sul, old silver mines worked by the Jesuits have been re-discovered. There are said to be in the Southern part of California, also, silver mines of the greatest richness, which were worked before the formation of the Mexican Republic with great results, all traces of which were carefully concealed when the priests, who had taken the profits of them were compelled to leave the country. The Indians were put under oaths, with fearful penalties, not to disclose the location of them.

A HARVESTING MACHINE.—The Contra Costa Gazette speaks well of a new harvesting machine, recently invented by Mr. Dalton, of Pacheco, and designed for reaping, thrashing and sacking the grain at one operation. The machine will run with three men and ten horses; and, adds the Gazette, though some minor difficulties may be looked for on first trial, they cannot prove so serious as to baffle the resources and determination of the inventor, who has set out with the purpose of surpassing any machine yet applied to the entire process of harvesting grain.

A BORING MACHINE.—Edward Duffy, a mechanic of this city, has invented a machine for manufacturing inner and outer window blinds, which bores 460 holes in a minute, and does it better than the same work can be done by hand. He has applied for a patent for his invention.

UNDERGROUND RIVERS.—There are said to be underground creeks in the limestone regions of Georgia with currents of sufficient velocity to carry a mill. There is a Government tannery, the bark mill of which is driven by one of these subterranean streams.

The latest Chicago swindling enterprise is a gold mining company of five hundred thousand shares, at one dollar per share. The territory to be worked is alleged to be somewhere in Western Kansas.

The San Francisco Mining Press, one of the ablest journals of its kind in the country.—[N. Y. Stockholder and Mining Herald.]

Change in Prices.

Single Copies of the MINING AND SCIENTIFIC PRESS will hereafter be sold at FIFTEEN (15) CENTS. By City Car Jers, 60 Cents per month; Monthly Series, 65 Cents. The rates of Yearly subscriptions, at the office of publication, remain as heretofore—\$5 per annum. The price to News Agents will be advanced 1½ cents per copy. Agents in the Interior supplied. June 30, 1886.

Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been organized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS,

And all other Blanks, Black Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the MINING AND SCIENTIFIC PRESS.

MINING SHAREHOLDERS' DIRECTORY,

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT OF ASSESSMENT.	DAY OF DELINQUENT SALE.	DAY OF PAYMENT OF DIVIDENDS.
Antioch P. Refr. Co., Contra Costa Co., \$2—July 30—Aug 29			
Arizona P. Refr. Co., \$30—Aug 3—Aug 22			
Assurance M. Co., Monterey Co., \$30—Aug 1—Aug 20			
Arizona Copper Co., Arizona Terr., \$10—July 21—Aug 19			
Arbitros, Mexico, \$100—July 12—Aug 13			
Blue Ledge G. & S. M. Co., El Dorado Co., \$1—July 14—July 31			
Bunker Hill G. & S. M. Co., El Dorado Co., \$1—Aug 11—Aug 28			
Coarillera G. & S. M. Co., Mex., \$1—Aug 24—Sept 15			
Corcoran G. & S. M. Co., Nev., Ann. Meeting Aug 10			
Costa S. M. Co., Simola, Mex., \$1—June 30—July 28			
Confidence S. M. Co., Storey Co., Nev., \$25—July 19—Sept 4			
Central S. M. Co., Storey Co., Nev., \$5—Aug 23—Sept 12			
Crown Point, dividend, \$917—Payable June 15			
Confidence S. M. Co., Storey Co., Nev., div. 10 p. c., Pay July 9			
Del Norte Comstock Co., Del Norte Co., \$1.45—Aug 31—Sept 21			
Diana G. & S. M. Co., Lander Co., Nev., \$5—July 19—Sept 4			
Dancy G. & S. M. Co., Lyon Co., Nev., 75c—July 14—Aug 6			
Eagle Quartz M. Co., Alameda Co., \$1—Aug 18—Sept 5			
Exchequer M. Co., Storey Co., Nev., \$2—July 31—Aug 18			
El Tule S. M. Co., San, Mex., \$2—Aug 10—Aug 28			
Ethan Allen G. & S. M. Co., \$1—Annual Meeting Aug 6			
Enterprise G. & S. M. Co., Meadow Lake, \$1.25—Aug 19—Aug 31			
Great Central M. Co., Arizona Terr., \$1—Aug 3—Aug 27			
Gen. Washington G. & S. M. Co., Alp. Co., \$1.50—July 28—Aug 13			
Gold Hill Tunneling Co., \$1—Annual Meeting July 31			
Gould & Curry, dividend \$90 f. c.—Payable June 8			
Golden Rule M. Co., \$1—Annual Meeting July 31			
Hale & Norcross, dividend \$50 f. c.—Payable July 14			
Imperial G. & S. M. Co., dividend \$10 sh.—Payable May 10			
Jeffrey Oil M. Co., Humboldt Co., 25c—Aug 20—Sept 13			
Leiland, Arizona, 50c—Aug 22—Sept 10			
Lady of the Lake, Arizona, 60c—Aug 22—Sept 10			
Lady Bryant, \$1—Aug 22—Sept 11			
La Victoria G. & S. M. Co., \$1—Annual Meeting Aug 6			
Lake M. Co., \$1—Annual Meeting Aug 6			
Morning Star G. & S. M. Co., Alpine Dis., \$1—July 23—Aug 8			
Morning Star G. & S. M. Co., Alpine Co., \$1—Aug 13—Sept 4			
Nuestra Sra. de Guadalupe Co., Mex., \$1—July 19—Aug 13			
Norparell G. & S. M. Co., Tulumne Co., \$1—July 9—July 31			
North American Tin, Durango, Mex., \$1—Aug 10—Aug 28			
Nacassari G. & S. M. Co., Mex., 75c—Aug 15—Sept 3			
Peninsula M. Co., San Antonio Dis., \$10—Aug 3—Aug 15			
Patrocinia and Dolores S. M. Co., \$1.25—July 21—Aug 16			
Refugio M. Co., Mex., \$5—July 18—Aug 10			
Rogers S. M. Co., Storey Co., Nev., \$1—July 12—July 28			
Scott M. & E. Co., Humboldt Co., Nev., 50c—Aug 18—Sept 15			
Santa Cruz, \$100 Co., \$50—Aug 7—Aug 28			
San Marcial S. M. Co., Mex., 50c—Aug 1—Aug 28			
Sweet Vengeance G. & S. M. Co., Yuba Co., \$1—July 23—Aug 15			
Salambro Copper, Tulumne Co., \$1—July 10—July 31			
Sierra S. M. Co., Douglas Co., Nev., \$1—July 21—Aug 15			
Savage M. Co., \$1—Annual Meeting July 10			
Santiago M. Co., dividend—Payable July 7			
Sweet Vengeance G. & S. M. Co., \$1—Annual Meeting Aug 6			
Tulumne Mountain G. & S. M. Co., \$1—July 22—Aug 15			
Tehachum G. & S. M. Co., Alp. Co., \$1—July 12—Aug 2			
Tecumseh G. & S. M. Co., \$1—Annual Meeting July 19			
Triunfo G. & S. M. Co., L. C., \$3—Aug 27—Sept 8			
Union G. & S. M. Co., L. C., \$1—Aug 27—Sept 8			
Union Mattole Oil Co., Humboldt Co., \$5—July 16—Aug 20			
Yellow Jacket S. M. Co., div. \$10 sh.—Payable July 15			

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

United States 7 3-10ths.	Bid.	Asked.
Legal Tender Notes.	74 1/2	75
State Bonds, 7 3-10ths.	83 1/2	84 1/2
San Francisco 10 3-10ths.	100	105
San Francisco Bonds, 1855, 6 3-10ths.	110	120
San Francisco Gas.	69	70
San Francisco Bonds, 1858, 6 3-10ths.	69	70
Sacramento City Bonds, 6 3-10ths.	20	40
Sacramento County Bonds, 6 3-10ths.	58	60
Yuba County Bonds, 10 3-10ths.	75	80
Stockton Bonds, 10 3-10ths.	80	85
Yuba County Bonds, 10 3-10ths.	80	85
Butte County Bonds, 10 3-10ths.	70	80
California Navigation Co.	66	87
State Telegraph Stock.	31	33
San Francisco Gas Co.	118	125
Sacramento Gas Co.	79	79
Spring Valley Water Co.	68	68

RAILROADS.

Sacramento Valley Railroad.	52	53
Omnibus Railroad.	46	50
Central Railroad Co.	46	50
North Beach and Mission.	46	50

MINING STOCKS.

Alpha.	100	\$105
Baltimore American.	47	48
Sullivan, G. H.	135	145
Becher.	212	245
Confidence.	212	245
Optim.	7.5	750
Gould & Curry.	115	125
Empire M. & M. Co.	950	950
Savage.	180	185
Chollar-Potosi.	1450	1500
Hale & Norcross.	1450	1500
White & Mithy.	565	580
Sierra Nevada.	36	37
Yellow Jacket.	750	800
Overman.	750	800
Crown Point.	750	800
Antelope.	750	800
Emeralda.	750	800
Real del Monte.	750	800
Backery.	750	800
Dick Sides.	750	800
Imperial.	91	92

San Francisco Market Rates.

WHOLESALE PRICES.

	FRIDAY, July 20, 1898.	
Flour, extra, 3 bbl.	5 00	5 75
Do Superfine.	4 75	5 00
Corn Meal, 3 100 lb.	1 50	1 65
Wheat, 3 100 lb.	1 40	1 50
Oats, choice, 3 100 lb.	80	90
Barley, 3 100 lb.	3 50	5 50
Beans, 3 100 lb.	50	75
Potatoes, 3 100 lb.	8 00	14 00
Hay, 3 ton.	8 00	10 00
Live Oak Wood, 3 cord.	8 00	10 00
Beef, on foot, 3 lb.	6	
Beef, extra, dressed, 3 lb.	12½	
Sheep, on foot, 3 lb.	1 00	2 00
Hogs, on foot, 3 lb.	8	
Bugs, dressed, 3 lb.	10½	19

GROCERIES, ETC.

Sugar, crushed, 3 lb.	13 1/2	—
Do China.	10	11
Coffee, Costa Rica, 3 lb.	23 1/2	—
Do Rio.	90	1 00
Tea, Japan, 3 lb.	90	1 00
Do Green.	9	—
Hawaiian Rice, 3 lb.	6 1/2	7 1/2
China do.	70	75
Coal Oil, 3 gal.	10	12
Candles, 3 lb.	30	37 1/2
Ranch Butter, 3 lb.	30	37 1/2

HUNGERFORD'S IMPROVED CONCENTRATOR,



FIG. 1.

For Saving Gold, Sulphurets, Quicksilver, Etc.

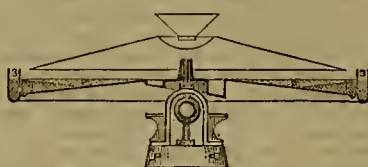


FIG. 2.

There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Mines are now abandoned, or, what is worse, paying assessments which, if the sulphurets were saved, would yield handsome dividends. Great difficulty, owing to the varied form and character of the sulphurets, has been experienced in devising a machine to separate them, and it is only by close and patient observation, persevering study and careful experiment, that any machine can be made or matured so as to save a high per centage of the sulphurets which are in the ore. No machine is so perfect as to save all; and the best is that which will save most with the least expenditure of time, money, and power. Many machines have been tried, and many abandoned; all of which have been unable, so far, to attain a profitable separation, and meet the requirements of the mining interest, so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

The separating or concentrating action is obtained by centrifugal force and gravitation; the pulp being preserved by water in the proper condition for the operation, and the pan so constructed, mechanically, as to allow the centrifugal force and gravity to expend themselves to the best advantage in producing the separation, as well as to make the machine simple, compact, and easily kept in order.

Fig. No. 1 is a perspective view of the Concentrator while in operation, showing the general arrangement. Fig. No. 2 is a section through the centre of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

Its operation is as follows: The pulp flows from the spout through the filter into the bowl at the top, from which it is distributed equally over the convex cover into the pan near its outer edge. The lightest sand is at once carried off with the overflowing water through the centre opening, and the sulphurets are allowed, from the motion given to the machine, to gravitate to the bottom toward the outer edge, forming an embankment all around the pan, as represented at 1, 1, Fig. 2. The lighter particles of the sand arrange themselves on the top at 2, 2, Fig. 2, from which they are being constantly washed away with the water flowing through the central opening. The sulphurets are, by the centrifugal motion of the machine, made to pass through small openings at intervals in a few inches around the circumference, through the inner wall of the pan to the circular trough, 3, 3, Fig. 2, where they come in contact with the mercury at the bottom, depositing the free metal, from which it is drawn at pleasure by an opening in the bottom, and the sulphurets, in the order of their density, by openings in the sides.

It will be observed that the sulphurets in the trough, 3, 3, are maintained at the same elevation as the sulphurets and overlying sand in the body of the pan. It will be further observed, that by no possible means can the sand in the latter pass to the former in such quantities as to form any considerable percentage of the amount saved. The advantages of this improved pan are continuous action, requiring no attention except to remove the receiving vessels as fast as they are filled from the openings shown at the right of Fig. 2, simplicity in construction, and durability and cheapness of cost.

The pan derives its motion from two eccentrics secured on a horizontal shaft passing across and below the centre of the pan and working between two pairs of adjustable wooden guide blocks or bearings. The eccentrics are so made as to bear equally on the wooden guide blocks in all positions while in motion; giving to the pan the most desirable motion for its purpose, and doing away with all complexity of rods, cranks, wooden frame, etc.

These pans are now being introduced into the best mills in the country. Reference to parties who have tested them can be had by applying to the manufacturers.

Those interested in mining, and who call at the Miners' Foundry to see the one which is there in operation, will have no reason to regret their visit.

San Francisco, June, 1886.	[3x13-In]	M. HUNGERFORD, Miners' Foundry, First Street.
Isthmus, do.	30 @ 32 1/2	
Cheese, California, 3 lb.	10 @ 17	
Eggs, doz.	40 @ 42	
Lard, 3 lb.	18 @ 20	
Ham and Bacon, 3 lb.	18 @ 20	
Shoulders.	12 1/2 @ 15	

SPLENDID

HOMESTEADS!

IN THE COUNTRY.

Twenty-Two Acre Blocks

Adjoining the beautiful Town of

San Leandro, Harlan's Addition

BUT ONE HOUR'S RIDE FROM SAN FRANCISCO.

Property but a few rods from the Railroad Depot. Good schools, good water, splendid view, free from wind and dust, and the best of soil.

A rare chance to buy a beautiful Homestead for your wife and little ones, at a low figure.

Improved Homesteads and Farms of 20, 50 or 100 Acres.

In Alameda county. The most desirable locations in the State. Apply to or address

G. E. SMITH,
Notary Public and Searcher of Records.
Office, "Betsy House," (directly opposite the Court House),
San Leandro. 19v12-3m

Preparing for Publication.

A complete History and Directory of the

Central Mines of Colorado.

And the towns and cities in their vicinity.

PERCEIVING THE GREAT ADVANTAGE TO COLORADO a pamphlet, historical and descriptive of its central and most important mines would be at the present time, the subscriber has undertaken to publish such a work.

It is designed to fix for the future the discovery and early history of the mines, to sketch their progress and present condition, to give such statistics as are attainable with regard to their production, actual and possible; in fine, to disseminate throughout the East and in Europe accurate information respecting them. To relieve the tediousness of such a work, interesting incidents illustrating the early manners and customs of the pioneers, and the gradual organizing into its present consistence of the first and always to be the eminently Rocky Mountain State, will be given.

It is also designed to contain a complete Directory of the towns of Central, Black Hawk, Nevada, Colden City, Idaho, Empire, Georgetown, Cold Dirt, and South Boulder; views of each of those places; separate views of the principal buildings, public and private; also views of mills and mines and of mountain scenery.

There will also be attached a Business Department, in which a limited number of advertisements will be inserted.

O. J. Hollister, of the Black Hawk Mining Journal, has been engaged to compile the body of the work—the historical and descriptive narrative. Having been here uninterruptedly for the past six years, and mingled freely in perhaps every walk of life, he trusts he will be able to do the subject ample justice.

All old residents of this region who are familiar with the discovery and early history of the mines, or with interesting incidents of that indefinite time known as the "early day," will confer a favor on the subscriber by furnishing such information to O. J. Hollister, Journal office, Black Hawk, Colorado.

The work will be issued during the month of August. Price \$2, bound in paper; in muslin, \$2.50.

Address, G. M. BINKLEY.

May 10th, 1886. Central City, C. T.

By Express.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co.'s tariff) on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

Mining Summary.

CALIFORNIA.

Alpine County—

The *Ledger* of July 21st, has the following: The proprietors of the Keystone mine have just completed one of the finest quartz mills in the State. They use a 60-horse power engine and two tubular boilers, and are now running twenty stamps. It is the intention to erect twenty more stamps as soon as the machinery of the old mill can be removed.

A recent visit to the principal quartz mines at and in the vicinity of Sutter creek, confirms us in the opinion, so often expressed by ourselves and others, that they are the best developed and best paying mines on the Pacific coast or in the world. The main shaft on the Eureka is now over 1,200 feet deep, the ore richer than at any other depth, and the only perceptible difference being in the more general diffusion of the gold through the ore. The Old Union mine, owned by Stanford, Downs & Co., is now down about 700 feet, and is daily and rapidly progressing. The Mahoney mine is as rich as ever. We were shown two halls of retorted gold, the result, if our memory serves us, of two weeks run, weighing severally twenty-five and thirty-five pounds. There are two shafts on the Mahoney mine of the respective depths of two and four hundred feet. The lode is of leviathan proportions, being in many places from thirty to ninety feet in width. Wildman, Wheeler & Co. are untiring in their efforts to develop a good mine, and their faith is as unflinching as their energies. After sinking 530 feet, a drift was driven easterly seventy feet, and then westerly thirty feet, with fair prospects of getting the foot wall. The Railroad is now down nearly 300 feet, and the vein is still widening and daily growing richer. In the No. 1, the depth of the main shaft is 113 feet, with levels 200 feet in length. The vein is from two to eight feet in width, and the last run crushed under the management of Mr. Downs, yielded sixteen dollars to the ton and of a fineness of \$61. Northeastly from the Number One is another new discovery believed to be on the Coney lode, and owned by Rev. J. H. Miller, Littlefield and others whose names we did not learn. The quartz and surrounding rock, both of this and the Washington, are evidences of their sameness with the Coney and Blue Jackets.

Calaveras County—

The *Chronicle* of July 21st, has these items: On Sunday last we were shown the gold—185 ounces—taken from Reed & Co.'s claim during a short run. This claim is located near the north fork of the Mokelumne river, on the West Point range, and is proving itself to be one of the richest in the county. The rock was crushed at Harris' mill, near Sandy gulch. The greater part of the gold taken out at West Point is sent below by the way of Volcano, and goes to swell the returns of Amador, instead of being placed to the credit of this county, where it belongs. . . . We were shown this week, some rock from the celebrated claim of Beals, Butler & Co., at Railroad Flat. We never saw any rock which had the precious ore so generally diffused through it. The vein has been taken up for a distance of five miles. . . . After crushing a hundred tons of rock taken from their claim in Spring gulch, near Mokelumne Hill, Lamphar & Co., cleaned up on Monday last. We are not informed as to the exact amount obtained, but are apprised that the yield was even greater than before.

From the Copperopolis *Courier* of same date, we clip these items: Mr. McGlynn has commenced to crush quartz rock from his lead near San Andreas. The prospects are flattering. He has a lead about four feet wide, at a depth of twelve feet, but the rock is full of sulphurets, which will render it difficult to save all the gold by the ordinary method. . . . The Alban Ranch claim, according to accounts, is now paying handsomely.

Mariposa County—

We clip the following from the Mariposa *Gazette* of the 21st instant: A correspondent writing from Hunter's Valley, under date of July 14th, says: "Everything in the valley is moving on slowly. The Potts mine is paying well. Barrett's mill is crushing day and night, and cannot crush half fast enough. The Floyd mill is standing still, and will not start until ordered at headquarters."

Messrs. Coffey, Risdon and Haskell, are about to erect smelting works near the La Victoire vein, in Hunter's Valley.

Mono County—

The Partzwick correspondent of the *Alla* writes, July 29th: "This section of our mineral region has been little noticed in the press. Situated about fifty miles south of Aurora, on the high road to Owensville and Kearsarge, it possesses many advantages in addition to its rich mineral wealth. The ore is adapted almost exclusively for smelting. From some of the leads opened the richest yields known have resulted. The Diana claim averages over \$250 to the ton. This company work their rock

with a small 4-stamp mill, and find as much left in the tailings as they receive in the amalgam. The Sierra Blanca company's claims—the Crocker and Elmira—yielded by smelting process a trifle over \$300 per ton. The Cornucopia lead is being thoroughly and systematically opened. Five shafts are sunk, at a distance of one hundred feet apart, to depths of from one hundred and twenty to one hundred and eighty feet, and at every sixty feet a gallery is run connecting the whole of these shafts. No ore has been taken out except that necessary in running this work, as the company wish to thoroughly open the mine before stoping. The lead is a good one, well defined, and the pay streak is very rich. In a short time they will have their smelting furnace up, and then the results will show, without doubt, the wealth of their claim. The Kearsarge is another very rich lode; the Camanche and a host of others could be named, but it is sufficient to say that all are satisfied with the value of this section of the country. All we need now is some cheap method of extracting the precious metal. At Silver Peak, Martin has been eminently successful with his small mill, and is now about erecting one of forty stamps."

Nevada County—

The *Gazette* has these items: Four tons of Banner rock, crushed last week at Stiles' mill as a test, yielded \$48 per ton. The incline is now down to a depth of one hundred and sixty feet, which is about one hundred feet in perpendicular depth. The new mill of the company, after considerable improvements and re-arranging, is now running satisfactorily. . . . We learn that the Willow Valley company, who have been running their incline under the ledge, commenced drifting for it on Thursday, and after running eight or nine feet struck the vein Saturday afternoon. The ledge is about four feet wide, and the rock is apparently better than that taken from near the surface. The incline is sixty feet below the old tunnel, and a hundred and twenty feet below the surface. . . . The Grant ledge promises well. A shaft has been sunk upon it to the depth of fifty feet, and a tunnel run from the bottom of the same a distance of about thirty feet, from which twenty loads of rock has been taken, which yielded about twenty-one dollars a load. The sulphurets have been found, on assaying, to pay as high as one hundred dollars a ton. . . . A crushing of four and a half tons of rock from the Eureka ledge, at Grizzly ridge, was cleaned up at Stiles' mill on Tuesday, and yielded \$246—equal to \$54.67 a ton. This rock was brought down and crushed as a test. . . . The Ophir mill, which has been idle for a week or ten days, was started up again, a day or two ago, and the machinery is now working beautifully. . . . The surveys necessary for commencing operations on the claims of the Chalk Bluff Blue Gravel company are to be made at once.

The Grase Valley *National* says: Woodworth & Co., at Osborn Hill, are now taking out some very rich rock from the old ledge. They are now down about two hundred feet, the ledge is from one to two feet thick, and the rock will pay from one hundred to two hundred dollars a ton. . . . On the Utah ledge, a tunnel has been run in some four hundred feet, and an incline shaft is now being put through the ledge. We have been shown much rich rock from the Utah, taken from the bottom of a shaft twelve feet below the water level.

The following is from the *Union* of July 18th: The Cambridge mine, which was sold a few months since to W. H. V. Cronise and other quartz operators of San Francisco, is now being opened in a thoroughly workmanlike manner, and it promises to be one of the best mines in Grass Valley Township. The Cambridge is located on Howard Hill, about one mile and a half easterly from Grass Valley. Since the new proprietors have come in possession, splendid hoisting, pumping and reduction works have been erected. The incline shaft is now down 158 feet. The mill will be started when the depth of 230 feet, or 100 feet below the old works, is reached. The ledge, where exposed at the foot of the incline, is about eighteen inches thick, and looks splendidly.

The Italian ledge company had some rock crushed, which paid fifty dollars per ton. The ledge is two feet wide. . . . The Dead-Wood company have reached a depth of fifty or sixty feet. They hoist by hand, and raise the water by a 6-inch Hansbrow pump. They have a large ledge, which they are working in two places. The surface rock pays \$50 per ton, and is more than paying the expenses of sinking the incline.

Excelsior.—A correspondent of the *National*, writing from Meadow Lake, July 18th, says: "Since writing my last letter I have been among the mines of this section of the country, and find that within the past two weeks our miners have made great progress toward the opening of their claims, and the result is very flattering generally. In most of the claims being prospected the ledges improve in appearance as they are opened."

Placer County—

The *Herald* of July 21st, says: The Charlee Mallott ledge increases in richness as they go

down. The shaft is now sixty feet. . . . On the Taylor ledge, a depth of nearly 100 feet has been reached, and the rock shows well at that depth. Every indication shows this to be a well defined and valuable ledge. . . . The "Conrad" hoys have gone to work again, and are taking out rich rock.

Pinamas County—

A correspondent of the *Marysville Appeal* writing from Nelson Point, July 18th, says: There has no company got into the river as yet; that is, none have commenced washing. The Glandiam Rocky Bar company (Chinese) have the water running through their flumes. Also, Shubert & Co., in Nelson creek. Ullermann & Co., in their high-bar claim—hydraulic diggings—on Nelson creek, have been doing well, and are going to flume the creek; also Reed & Co., the claims near the Willow ranch, are cleaned up; that is, as much as they are going to be this year. * * They got some heavy gold, \$25 and \$39 pieces. Some boxes, I know, yielded considerably over \$100 each—but all they say is, "We have done very well"—probably not wishing to make a show. Hardy & Brown, on Chip Flat, have not yet cleaned up.

San Bernardino County—

The *Alla's* correspondent writes from Slate Range, July 8th: The Argus district at this moment contains larger lodes, richer silver ore, a greater abundance of water, and is nearer to civilization, with good roads, than any district I know of, and I have traveled as extensively as any miner in California. The lodes are well defined, the ores principally argentiferous galena, easy of extraction, and yet there is not at this time a single miner in the district. This should not be. We surely ought to give this district a trial. Let some scientific miners come out here, and we will show them where fortunes can be made, with less expense for freight, fuel, etc., than in either Washoe or Reese River; aye, and far richer ore. Then there is on the south the El Paso district—not even scratched—with ores of the same quality that assay \$900 to \$1,100 per ton, and an inexhaustible supply of copper ore, and there is not a single soul, at this time, in the district. * * It is only eighteen miles from the Argus to the Telescope district, thirty miles from Slate Range to El Paso, twenty-five miles from Slate Range to Death Valley, and forty-five miles from Slate Range to Walker's Pass, all good roads, and water within reasonable distances, and vegetables and grain can be bought cheap in Lion's Valley, only a short distance from Walker's Pass.

Shasta County—

The following is from the *Courier* of 21st inst.: A correspondent at South Fork furnishes the following items: The Crystal company have a shaft down about thirty feet. The ore is said to be very rich. Work has begun upon the Great Falls with a view of determining its value. The Dayton and its extensions show fine rock, and are rapidly assuming position with the earlier discoveries. The Whig and Black Jack are recent discoveries, and show good mineral. Arrangements have been perfected to commence work upon the Eclectic series next week. Work is being pushed ahead upon the Big Central with prospects that rank this mine next to the Chicago. The Chicago company have exposed a body of ore that cannot be beaten anywhere at the same depth. They have drifted in beside the middle ledge about thirty feet, leaving the ledge standing about ten feet in depth from the surface. The ledge is something over three feet between "flukins"—one streak about fifteen inches wide is over half mineral—probably two thirds. Judging from the result of ore already tested below, this body of ore is believed to be worth \$1,000 per ton in silver. The rock outside of the "streak" all contains mineral in ordinary quantities. All pronounce it the richest average deposit they ever saw.

The Quartz Hill claim, belonging to the Mammoth company, is being worked with splendid prospects. On Tuesday we saw half a pound of the rock crushed and panned out with a result of fifty cents, the workman who brought it in declaring that it is no more than average rock.

Sierra County—

The Alleghany correspondent of the *Mountain Messenger*, says, July 14th: Our town never seemed more prosperous. The Union mill is running, and the company are in high spirits. The Twenty-One mill has been in operation for some little time. Gov. Newell is likely to complete his mill on the New York Greenback ledge. It is reported that the Oak Flat company have sold for \$40,000; that is much lower than we expected. The Fac Simile company will strike the ledge in the lower tunnel next week, if the survey was correct. The Fremont company is progressing finely.

We understand that the Wheeler quartz mill, just above town, is now thoroughly repaired, and that Mr. Hall will start it on pay rock as soon as the crevices in the batteries are filled. The rock on the dump looks as though it would pay. Mr. Hall is pushing

vigorously ahead for another ledge, which is confidentially believed to exist at no great distance in the mountain.—*Messenger*.

Siskiyou County—

The Yreka *Union* of 21st inst., says: Dr. Furber showed us a piece of quartz, or rather gold with quartz in it, the other day, which was taken from Schlee's lode at Cedar Gulch. The piece weighed \$27, and the Doctor stated that there were plenty more just like it in that lode.

Yuba County—

The Marysville *Appeal* of July 24th, has the following: Our old correspondent, "D." who is a miner at Brown's Valley, sends us the following items: "The Jefferson company has, to-day cleaned up \$14,000, and if I am rightly informed, this is the yield of about 600 tons of quartz, which have been crushed at their mill during the last 16 days. The quartz taken from this claim during the last eight months, has on an average seldom paid over \$15 to the ton. The clean up on the beginning of this month has already been an improvement, for it averaged \$18; and as to the present crushing, that above mentioned, it shows a little further improvement in yielding \$23 per ton. The extraction and crushing of this quartz is comparatively cheap, \$4 per ton will nearly cover all expenses whatever of mining and milling.

A correspondent of same paper, writing from Timbuctoo, July 22d, says that place is by no means "played out." He instances Jack Warren's claim, the Antoine claim, owned by Sam. Peck, and the Babb claim, all of which are doing well, as proof of this. The Union company are not at present working, but extending their flume.

A new flume is being run, to drain all the claims. It will be 15 feet lower than the old one.

NEVADA.

Washoe—

The Gold Hill *News* of July 23d has this item: The Yellow Jacket mine still continues to yield large quantities of good pay ore, some of it being very rich. The total receipts of bullion last month amounted to \$292,274.

The traveling correspondent of the *Flag* writes from Virginia City, July 10th: "Standing on the divide between Virginia and Gold Hill, the observer gets a vision of mining industry that fills him with surprise and wonder—long lines of mills, one after the other in constant succession. The roads in all directions are thronged with teams engaged in hauling wood and quartz. Most of the mills are situated some distance from their respective mines, and the transportation of rock is by mule teams. The immense amount of bullion monthly taken from these mines is almost beyond reasonable belief, yet so expensive are the operations that the greater amount is eaten up by the expenses.

Reese River—

From the *Reveille* we clip the following items: "A new district, the Northumbeland, has recently been discovered and named. It is situated in the Smoky Valley range, is bounded by Smoky Valley on the west and Monitor Valley on the east, and extends ten miles north and ten miles south of the locations. Seven ledges were located by the party, all of which were grouped to an area of about half a mile, on the northern side of Charnock's Pass. The ledges are apparently large, ranging from five to ten feet thick. . . . An assay of ore from the Mount Airy ledge, Morry district, showed a value of \$548.41 per ton, and another of ore from the American Eagle, at the rate of \$1,101.35 per ton, and it is estimated that the entire ledge, as far as examined, will pay at the rate of \$200 per ton.

The "Nevada Giant" ledge, in Cortez district, lies on the west side of Mount Tenaho, about mid way of base and summit, and stretches along its front from north to south, bold and precipitous, a distance of six miles. The grand outcropping mass is distinctly visible for forty miles, as you approach it from Grass Valley. According to the observations of Professor Jackson, taken in 1865, Mount Tenaho is 11,500 feet above the level of the sea, and 7,500 feet above Cortez Valley. This extraordinary deposit of calcareous and quartzose matter presents the most extensive vein formation of which there is any knowledge. It exhibits the same features common to most metal-bearing veins. The richest ores lie near the foot and hanging walls, while the more regular deposit of a lower grade of mineral is held in the center of the vein. And the richest deposits invariably run transverse to the general stratification. The width of this giant vein cannot be less than 900 feet from the granitic formation to the point where the stratified form ceases.

Work has been commenced on the Twin Ophir Nos. 1 and 2, of the La Plata company. The rock is very peculiar. Sixty tons are to be worked at the Keystone mill, and it can be worked with ordinary ease anywhere near the assay, the value of the ledge cannot be estimated. It is thought by those who have

confidence in its easy reduction by roasting and amalgamation, that the value of the ledge exceeds anything yet discovered in the State of Nevada, and if so, is the most valuable mine in the world. . . . Following are the names of five claims in Danville district, with the assay yield of their ore: Vanderbilt, \$895.89 of silver per ton; Boulder Ledge, \$1,702.82; Monadnock, \$207.35; Maid of Erin, \$486.97; Green Monster, \$103.67.

The foundation for the machinery in the new Metacom mill is already laid. It is calculated to have the mill running during September, when fully one thousand tons of ore will be ready for it to operate upon, which will work from \$150 to \$180 per ton. The cost of the mill and other buildings and improvements will be about \$75,000. The Metacom company is a New York incorporation, with a capital of \$2,000,000 currency, of which \$100,000 in coin has been paid in. . . . The Buell North Star mine was closed yesterday for a brief period. It is the intention of the superintendent, Captain Phillips, to go eastward immediately in order to represent to the owners the necessity for additional working capital.

The Nye county News of July 14th has these items: The celebrated St. Elenn (Alvarez) mine, situated in Washington district, Nye county, was sold in this place on Tuesday last, at Sheriff's sale, for a little over \$15,000. The purchasers were Messrs. Knox and Dinsmore, of Austin, who held judgments, together with costs, for about the amount of the sale. It is probable that the property will be redeemed, as it is well known to be worth considerably more than the judgments for which it was sold, and the sum of \$75,000 in gold coin has been refused for the same. . . . An assay of Old Dominion ore, Hot Creek district, gave \$3,700 per ton. . . . In Union district, at Grantsville, a contract for running one hundred feet in the lower tunnel of the Great Eastern claim had just been finished, and another contract for running the same distance has been taken by the same parties, upon which work will be commenced immediately. The Knickerbocker mill, in a few days, will commence crushing ore from the Great Eastern, which claim the Knickerbocker company recently purchased.

Emeralds.

From the Union of 21st inst., we clip the following: We learn that the mines in Palmetto district are being developed as rapidly as the circumstances will permit, and are proving themselves richer than anything before discovered in that section of country. . . . From reliable parties just in from Silver Peak and the Palmetto district, we learn that the reports received here of the recent Indian disturbances in that region were greatly exaggerated.

Palmarazat.

Mr. Mell, one of the party engaged in the Palmarazat trip with Governor Blaisdell returned to Washoe City lately, says the Eastern Slope. He states that the prospects of that district for early and permanent settlement is hourly improving. Several smelting works are now nearly completed, and more than as many more companies will commence the erection of works within a few days. Mr. Mell discovered and located three different ledges of good promise. He informs us that within a distance of sixty or seventy miles both iron and salt are found in unlimited quantities and of remarkable purity.

The Vedette says Silver Cañon is already a considerable town.

Black Rock.

The Chico Courier of June 30th, says late tests have "demonstrated beyond a doubt the richness of the Black Rock mines. Working tests showed from \$200 to \$6,000 per ton. Everybody is excited, and we expect to see a great rush to the mines."

Owen's River.

The Visalia Delta of July 18th, has the following news from Kearsarge: We learn from Dr. Pond, who has just returned from Owen's River, that the first run of Captain Paul's mill produced between three and four hundred pounds of silver bullion, which the Captain immediately took to Virginia City. The next run was even richer than this, and the bullion, which was supposed to be only silver, proves to be rich in gold, being worth from \$3.50 to \$12 per ounce. The lodes in that vicinity are selling for cash at \$100 per foot.

IDAHO.

The World of July 7th, says: Mr. W. W. Chapman, Jr., brought to Idaho City, last Monday, the result of the last clean up of the Elk Horn Mill, amounting to over \$5,000. It made a handsome brick. . . . Raymond's mill was advertised for sale.

Letter to same paper, from Rocky Bar, dated July 3d, has these items: The Waddingham company, under the supervision of Mr. John A. Greene, are busy at work on the Confederate Star, and have a large quantity of rock now on hand which they will commence crushing on Monday next. . . . The Idaho company will also start their mill in a few days. . . . The Benam & Harris mill and the Victor company, situated on Red Warrior, commenced

running yesterday, the former crushing from the Wide West, which is very rich. They have a very large quantity of very rich ore from said ledge now in their mill, and have a six foot well defined ledge at a depth of 150 feet. . . . The mill of the New York and Idaho Gold Mining company will start on Monday next. . . . The 40-stamp mill of the Waddingham company has been sold in New York to a company holding interests in Yuba district, and will be moved there soon.

Letter from Ruby City to the Vedette, dated July 1st, says: The mines in this district are now being rapidly developed; there are at the present time ten mills in running operation; these mills run 100 stamps. The Oro Fino, Morning Star, Minnesota, and many other lodes are being worked successfully. The celebrated Poorman and Hay & Ray are proven to be the same. The N. Y. & O. G. & S. M. Co. have expended about \$20,000 in driving tunnels, following the Hay & Ray lode from their discovery shaft, about 750 feet, which will tap the lode at the Poorman's shaft, 250 feet below the surface. Numerous fine roads have been constructed around War Eagle Mountain, to facilitate the transportation of the quartz to the mills. The recent rich developments in Alturas county, in the Yuba district, are attracting much attention. While the placer mines of Idaho are being exhausted, the permanent interest, which is quartz, is opening up with great success. In the Flint district, about eight miles south of this point, arrangements are being made for the erection of mills. There are some extensive veins of quartz which give paying tests.

MONTANA.

A correspondent of the Idaho World, writing from Reynolds City, June 10th, says: "As to the country let me say this—Elk Creek is a partial failure. About thirty or forty claims on it will pay quite well, nothing big. There are quite a number of small gulches around here averaging about six or eight claims each, which are paying quite well—some of them from \$600 to \$1,000 per week to the rocker. These will mostly be worked out this season. Deep Gulch, which heads about two miles from here, and runs to Bear City, is prospecting quite well, and most of the claims where bed rock has been struck are paying very well. This will not be worked out before another season. Deep Gulch empties into Bear Gulch. Bear Gulch is almost undeveloped, the mining is deep, and hence claims are hard to open. The Bostick boys and Buck Miller think the gulch very rich, and that it will pay big for five miles. If so that will be a good mining camp. I am going over there to stop a while. All of the old Indians say this does not begin to compare with Boise Basin when it was struck."

A letter from A. H. Marshall, dated Nevada Creek, June 25th, says the Trinity Journal has the following: "The mines are good, what there are of them, but like hens' teeth, they are very scarce. From what I can see and learn, I have arrived at the conclusion that there was more mining being done in Trinity county at any time between 1855 and 1860, than there is in the whole of this Territory now. This is a long way from being a second California in anything that is desirable but grass."

COLORADO.

The Register has these items: Josiah A. Conlee is now sinking the shafts on the Hardesty, Hussey and Burroughs mines. He has also the contract to sink the Eureka, now nearly one hundred feet deep. The latter company are putting up hoisting apparatus. . . . F. R. Ford's smelting furnace, in Russell's gulch, is completed.

The Journal gives the results of the experiments with sodium amalgam. Mr. Bruce, who has two batteries, of six stamps each, used it for four days, in one of them, running the other with quicksilver only. He got one ounce and nineteen dwts. more gold in the former than in the latter. Mr. Emery tried it in the Naragossent mill before it shut down, using it in two out of four batteries of five stamps each. He obtained, in a run of three days, five ounces of amalgam more than in the other two.

The Deover News of July 4th, has these items: A party who have been mining on Beaver creek for the last four years, with indifferent success, have at last "struck it rich," and are now taking out at the rate of \$50 per day to the hand. . . . Gulch mining at Buckskin is again looking up. . . . Hibbard and Wilcox are working in Eureka gulch with a Dodge mill, with great success. Their present furnace is of the capacity of one and a half cords per day, and they say they save 95 per cent of the precious metals contained in the ores, as indicated by a fire assay.

Editorial correspondence of same paper from Empire, under date of June 27th, says: Clear creek is high from melting snow, yet it is fordable at favorable points. Very little mining is being done in its bars this season. At only one point—just above Idaho—did we notice preparations for extensive operations. . . . But few mills are in operation, though a number of new ones are in process of erection, or

receiving their machinery. This place shows more improvement than any other we have seen. Quite a number of new houses have been built and several large mills in the vicinity are almost ready for work. The people are sanguine and confident as ever, and we think with good reason. . . . At North Empire, the tunnel belonging to the Lubig company, is 288 feet deep. It has pierced three or four lodes, and is now within a few feet of the celebrated Tenth Legion. The Atlantic is in over 200 feet. It has an eight feet crevice, and yields in an old stamp mill, about \$150 per cord. The same ore assays \$800 per cord.

ARIZONA.

Recent correspondence of the Alta, says, June 15th: The Big Bug mill will be completed by the middle of July. It is a 10-stamp mill, erected by Burger & Co. . . . The machinery for the Sterling mill is on the ground, and it will be running in one month. It is a five stamper. The Viceroy mill lies idle, there being two superintendents who cannot agree in regard to its erection and management. . . . It is intended to work the rock of the Bully Bueno lode. The shaft on this lode is sixty feet in depth. . . . The Woolsey mill, near the head of the Agua Fria, has five stamps, and will be running in about fourteen days. The water wheel, fifty feet in diameter, was a failure, and a new one is to be built. . . . The Thunderbolt mill, for custom work, is being erected by Lamson & Moore. . . . The Occidental mill, with two stamps, is working the rock from the lode of same name, which is small but rich. . . . The Coulter & Tyson mill, for the Eureka mine, is being erected. Part of the machinery is at Le Paz, and the rest at the mouth of the Colorado. . . . The ores from the Tenth Legion lode are being worked by an arrastra run by water power.

The above mentioned mills are only for the reduction of gold ores. If we take into consideration the great disadvantages under which this country has labored, and nearly the entire absence of outside capital, we can but come to the conclusion that the erection of so many mills, within a year, speaks well for the confidence the people here have in the mines, and for the gradual, but steady progress of the Territory; much more so than the New York stock bubbles in Southern Arizona where over a million has been expended in injudicious works, in costly houses and machinery, and even in miles of telegraph, connecting the mines with the Director's office, while the mines, whence all this outlay of capital was to be repaid a thousand fold, were entirely neglected, or worked by men who never saw a mine before, and who lost the vein wherever the least irregularity occurred. . . . * * * Sury & Pacheco's mine, near Tucson, and the Picacho mine of Calmar, are worked by old settlers, with arrastras with success. . . . * * * The only bad feature about this section of country is, that the actual work on the numerous mines is not at all commensurate with the mill power going up; and here, as everywhere in the United States, the fatal idea seems to prevail that a mill and a vein, or lode, is all that is needed to ensure success, and but few see the necessity of an extensive opening of the lode at first, without which a lode is not a mine by any means.

The copper mines on the Colorado are attracting attention. A private letter from La Paz says the region around William's Fork is lively. Martin & Co. have ten smelting furnaces on the way up the river, and a large quantity of ore out. The Planet mine has a new superintendant, and is to be worked with more energy than heretofore. The Great Central will have their furnace running in ten days.

OREGON.

A private letter from Canion City dated July 9th, says: "This camp has fallen through within the past six months. Everybody and a boy have left for Blackfoot, and it looks deserted here. . . . * * * My partner is attending to the ditch, and I am running the mine. Wages are four and a half and five dollars per day. I hire ten men. Shall clean up in three weeks."

BRITISH COLUMBIA.

The Calaveras Chronicle of July 14th speaks of the return of a neighbor from Big Bend, and says: He informs us that the business men of Victoria and other places frankly admit that they created the excitement for the sole purpose of benefiting themselves.

From the Trinity Journal we clip the following: A writer from Westminster, who left Yale on the 26th, says: "Here we found every one from Big Bend who could get back—some without hat or boots, and scarce enough clothing to cover them. All gave the worst account of Big Bend, or 'Big Bilk,' as they termed it, that I ever heard of. I heard men offer a reward of seventy dollars for an ounce of Big Bend gold dust."

Idaho papers tell the same story.

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NAPA CITY, May 9th—Messrs. Dewey & Co. Patent
Agents, San Francisco: Yours of May 7th is at hand. I
am pleased to hear of the receipt of our patent papers from
the U. S. Patent Office, Washington, D. C. You have my
fullest thanks for your energetic movements concerning
the same. Respectfully, yours, W. W. LEVERING.

Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

C. W. M. SMITH,..... W. B. EWER,..... A. T. DEWEY.
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Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

Mr. A. C. Knox, is our fully authorized Traveling Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
SAN FRANCISCO, Jan 11th, 1866.

Mr. I. N. Hudson, is authorized to solicit subscriptions, advertising, etc., for the MINING AND SCIENTIFIC PRESS, in San Francisco, and to receipt for the same.

Economy in Advertising.—The MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than one half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

It is impossible for editors to know all the merits and demerits of their correspondence, consequently the reader must not receive the opinions of our contributors as our own. Intelligent discussion is invited upon all sides and the evidence of any error which may appear will be received in friendship and treated with respect.

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

San Francisco:

Saturday Morning, July 28, 1866.

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MR. CONNESS' NEW MINING BILL.

The Bill which Mr. Conness introduced into the Senate as a substitute for that of Mr. Sherman, and which we published in our issue of June 30th, as presented, has been received as amended previous to its passage in the Senate.

The amended bill grants a privilege to any miner or mining company in undisputed possession of a quartz claim, according to the local laws, and having expended in labor and improvements \$1,000, to obtain a patent for the same on application to the Federal Land Register, and the payment of \$5 per acre. No one person can obtain a patent for more than one claim on any given lode, and no association of individuals can take more than 3,000 feet. In case of adverse claims the final decision of a court of competent jurisdiction, as to the right of possession, will be recognized as a determination of the title.

No obligation and no expense is imposed upon any miner. He can either avail himself of the privileges of the bill; or he can continue to hold possession under the local laws as now. He cannot secure his title to the government except through the local laws, and through the additional requirements of the Federal law. The last section of the bill gives to the State and Territorial legislatures the power to provide rules for working the mines, and is designed to enable the miners of any State or Territory, if they are so disposed, to secure the passage of a uniform code of laws.

The bill will go to the House in its present shape. It appears to be receiving the support of the Pacific delegation generally, and it is thought in Washington that it will pass the House as it stands.

Was Sodium Known to the Ancients?

The recent discussion between the friends of Professors Wurtz, of New York, and Crookes of London, as to which of those two gentlemen are entitled to the credit of having first discovered the utility of sodium in the presence of quicksilver, as an aid in the amalgamation of gold, has revived what appears to be a fact, that neither the recent discovery of sodium itself, nor its use as an agent in aiding the amalgamation of gold with mercury are modern discoveries at all; but that both that metal and its use in mining were well known to the ancients. This fact, if it is a fact, deprives not only Sir Humphrey Davy of the credit of being the original discoverer of sodium, but also both Mr. Wurtz and Mr. Crookes of its application to gold saving.

It is now stated that previous to 1853, and years before either of the above named gentleman thought of doing so, Mr. John Calvert, an English mining engineer, experimented with sodium as an amalgamating agent for saving gold; and that he was induced to do so from having learned of its value for that purpose, from an old work entitled *Ars Omnia*, originally written in Latin, but subsequently translated into English, and which, though somewhat rare, is still within the reach of every English student. And furthermore, that he (Mr. Calvert) exhibited and explained the same at one of his *conversations*, held at his house in London, in 1853; and that the fact was alluded to in the *London Mining Journal* of July 23d of that year.

The same article in the *Journal* also alluded to certain ancient manuscripts, exhibited by Mr. Calvert at the above mentioned *conversation*, which, if genuine, are certainly very remarkable and important as antiquarian curiosities, and leading to the inference that the ancients were, at least in one respect, quite as far advanced in the science of chemistry as we of the present day. The exhibition of the manuscripts was alluded to by the *Journal* as follows:

"In the collection is an old Arabian manuscript, proving that the ancients were quite masters of the best process for dechloridizing salt, and that they not only knew of the metal of salt (sodium), but its combination with mercury, and the affinity of that amalgam for gold.

There is also a manuscript by Friar Roger Bacon upon the metal of salt, the fire of salt, etc. Other manuscripts of no doubt a cotemporary date, upon the art of salt, the magic of salt, the fire of salt, the metal of salt, etc. These old Latin treatises have less of the clouded mystical humbug of such writers as Arnoldus, etc., and clearly show that they were masters of the process of the decomposition of salt and its metal (sodium), and perhaps magnesium. In the same case is a curious Spanish manuscript, of a more modern date, entitled the "Secrets of Amalgamation," by Alonzo Barba. This elaborately describes the various methods of amalgamation, and speaks of the great advantages to be gained by the admixture of certain metal with the mercury when the ores are foul with unclean matter."

In the *London Mining Journal* of May 19th, of the present year, Mr. Calvert has published a communication, drawn out by the discussion between the friends of Messrs. Wurtz and Crookes, and republished in the *London Chemical News* (edited by Mr. Crookes), of May 25th last, and prefaced by the *News* as follows:

The following remarkable statements have been made by Mr. John Calvert, C. E., in the *Mining Journal* for May 19. Are any of our readers aware of the existence of such wonderful manuscripts? To separate sodium direct from its chloride requires more knowledge of chemistry than we possess at the present day. But of this the author of these quotations was probably not aware: "Before proceeding to describe the old woven onyx (asbestos) documents discovered by me in my voyage to New Guinea and Borneo, I will notice a few passages from the grand manuscript work of Roger Bacon (Bacon), *Ars Omnia*, in which he and his pupils seem to have amassed some considerable quantity of matter, and in translating the Arabic works of Lehri (chemical) and the Persian Eos (or *Eos*), a work describing the laws of things existing in air, also in water, and also in the earth, we are enabled to snatch that a few stray historical facts worthy of notice, which appear to suggest the origin of the science of chemistry: And there came from the

land of Jap, a long way over the big water, a man called Syni, whose skill in the art of metals and rare things was so great, that he made metals that no man knew from rock and earth, which lay in great abundance in many places; but this man Syni finding how great the admiration for gold was in all the land, forthwith set to work to make that which was prized so greatly by all men; and after many labors and the most subtle combination of uncommon matters, he took from his earthy medley real gold, which he declared to be the work of his own will, and that he transmuted the common metals into the great; but all men saw the small piece to the vast labor, and held him low in estimation until at last they sought to kill him, as one of weak magic and power; but Syni, judging their intention, fled that place, and going up into the land of the great king, he made new fire vases and stoves, and brought forth wonders of extreme variety; and, having gathered together many slaves, he caused to be hewn from the mountain his effigy, 400 (?) high, which, when all men saw, they came from far lands, and cut from their ornaments many pieces of gold to lay at his feet. The *Ars Omnia* is a vellum manuscript, subdivided into one hundred and thirty books, and is neatly written in double columns, by seven or eight different scribes, and, with the exception of a few extracts, all in pure Latin. The first forty-three books are upon the history of the earth, in which the *Eos* is frequently quoted; the next seven are made up from translations of the works of Hermes Trismegistus and Arcturius; then a book on the great Persian King Kalid, a great chemist, and three books of translations of his works; then the sixteen books on Geber, the Arabian king and chemist, and then follows a book on the 'Metal of Salt,' in which he describes how the burning matter of the salt has greater affinity for other substances still more foreign, with which it will combine, leaving the metal of salt pure. Also, at another page, he says that 'the transmutation of salt is effected by much craft and cunning, leaving a good metal the result, which is like no other metal, but the art is not known to common men.' And in the next book, entitled the 'Magic of Salt,' he says: 'It is well that the vulgar understand not the good and great art of (decomposing) the destruction of salt, as, if it were known to all, riches would be no longer held rare or even respected, as with this metal much gold can be obtained, and such great virtue doth it contain, that one piece of such size that will cover the top of the small finger will work wondrous magic throughout a great mass of such worthless stuff that no man would buy for the smallest coin; yet, when this and other metals well known to all men, shall lovingly and speedily unite in one common mass, then the adored of all metals becomes life, and is born unto man, and true and real gold may be taken from those common metals without loss to them in weight or virtue, so that by great craft, cunning, and magic, not enjoyed by common men, good gold, never again to be lost, is transmuted from the vilest of dross; and so men may enjoy riches without prying into other money oaks, or borrowing from those who have little to lend.' The next five books are upon digging into the earth for the calx of metal, and the remainder upon the art of extracting and purifying metals and earths. I have chiefly selected these passages to prove that the alchemists, in spite of all their humbug and mistaken notions, often cheated themselves; and when they fancied they were making or transmuting gold, they were simply extracting it from ores or metals which absolutely contained it."

AMERICAN INVENTIONS IN EUROPE.—It has been estimated that one-fourth of all the patents now being secured in Europe are taken by Americans. When it is considered that this is in the face of the enormous charges made for foreign patents, the inducement must be very great. Many American patents have proved very successful, and more money has been made from them than from the inventions of Europeans. This is partly due to the practical utility of the inventions themselves, and partly to the energy of the party engaged in its introduction.

AGENT.—Capt. V. Cushing, whose card appears in to-day's issue, offers his faithful services to parties in the interior who wish a reliable agent for the purchase of machinery, etc., in this city. We take pleasure in recommending him as a worthy and well-known citizen.

APPOINTMENT.—Charles H. Hitchcock, son of the late President Hitchcock of Amherst, has accepted an appointment as Professor of Geology and Mining in Lafayette College, at Easton, Pa., and has gone to Europe to spend some time among the mines of Austria before entering upon the duties of his position.

THE WORLD'S FAIR AT PARIS.

It will be recollected that the Chamber of Commerce of this city appointed a Committee some time since, to take the necessary measures to secure a creditable representation at the World's Fair at Paris, in 1867, of the agricultural and mineral products and manufactures of California. That committee met on Tuesday last, at the office of the Union Insurance Company, on California street. After some deliberation, with Mr. Chas. W. Brooks in the Chair, it was resolved to call in to the aid of the Committee representatives of other interests, to act in concert with our commercial representatives in the matter.

The Committee was accordingly reorganized as follows: W. B. Ewer, State Commissioner to the World's Fair, Chairman; Albert S. Evans, Secretary; H. P. Coon (Mayor of the city), F. B. Pigne-Dupuytren, Alexander Weill, Chas. W. Brooks, Gustave Touchard, H. J. Booth, Jacob Deeth, and Joseph McGillen. The above named gentlemen will act as a State Central Committee, to co-operate with the National Committee, at New York, and any agents the General Government may appoint in securing a proper representation of this State at the Paris Exhibition.

The Committee met on Thursday afternoon last, and went into a lengthy discussion with regard to the steps which should be taken to carry out the object in view. The Chairman called the attention of the Committee to the necessity for immediate action. There was no time to be lost; the circular issued for the Government agency in New York, states that all articles intended for exhibition should leave that city by December, at the very latest.

Mr. Deeth suggested that the representation should be sufficiently broad to include our agricultural products, as well as manufactures and minerals, to the end that the fertility of our soil and the excellence of its products might be better understood abroad.

It appeared from remarks from Mr. Weill and Dr. Pigne-Dupuytren, that there was some misunderstanding in New York as to the details of the arrangements for the exhibition, so far as this country was concerned. Applications had been made by letter, by telegraph and by persons through parties in New York, to learn what space could be allotted to this State, either in the aggregate, or for special departments at the exhibition. No information on that point had yet been obtained, and the Committee was comparatively in doubt as to what arrangements should be made.

It was also uncertain whether it would be requisite to ship articles intended for the exhibition first to New York for examination there, or whether they could be sent direct to Paris.

Mr. Touchard suggested that it was a roundabout way of doing business to ship articles from California to New York city, there to be unpacked, overhauled and re-arranged. Besides the unnecessary trouble and expense, there was danger of loss, of misplacement of labels, injury from handling, etc. The direct shipment, if possible, would be much the best, and the plan had other advantages, as had been suggested, deserving the attention of the Committee. The re-shipment of valuable minerals, especially, would not be advisable. They could hardly fail of being seriously injured and disarranged by passing through unpracticed hands.

To send to New York and get an answer in relation to these matters, by mail, would require fifty days; it was, therefore, suggested that a committee be appointed to communicate with the proper parties in New York, with instructions to learn the most necessary points of information by telegraph; the less essential to come by mail. Messrs. Weill, Brooks, Dupuytren, and Mayor Coon, were appointed to that Committee; to which was also added the Chairman.

On motion of Mr. Touchard, Messrs. Dupuytren and Deeth were appointed a Committee to further, as far as possible, the collection of mineral specimens for the exhibition. The Chairman stated that the State Agricultural Society were making some arrangements

for collecting samples of our agricultural products for the exhibition, and suggested that this Convention put itself in communication with the State Agricultural Society, with the view of co-operating with that body in furthering the work in view. On motion of Mr. Weill, the Chairman and Secretary were directed to carry out this suggestion.

Mr. Evans suggested that it would greatly facilitate matters, if persons having articles which they desire to place on exhibition, would communicate that fact at once to this Chairman, Mr. Ewer, or to Dr. Pigne-Dupuytren; so that when answers have been obtained from New York no time need be lost in making up the list and shipping the articles, in accordance with the instructions which may be sent from headquarters. It was furthermore suggested that public notice, inviting such action, should be given by all papers throughout this State friendly to the object in view. The Committee adjourned to meet at the call of the Chairman.

NEW PATENTS.

Following is a list of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, together with other issues which we deem of local interest to readers on this side of the Continent. Most of these claims have been secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

GUN-LOCK.—Wm. Rudolph and A. Braun, San Francisco, Cal.: We claim as our invention and improvement connecting the trigger to the sear by means of the hinged arm, g, substantially as described. And in combination with this trigger and hinged arm we claim the spring, i, substantially as described.

METHOD OF BURNING GAS.—John C. McNally, assignor to himself and Thomas Les, San Francisco, Cal.: I claim the burning of jets of inflammable gas in combination with clinkers, substantially as described.

PHOTOMETER.—S. G. Elliott, San Francisco, Cal.: I claim the combination of the tube, A, with the sliding, graduating tabs, B, reflector, F, and rod, E, when said tubes, reflector, and rod are constructed in this manner and for the purpose as substantially described.

METHOD OF PROTECTING PILES.—William J. L. Moulton, San Francisco, Cal.: I claim the mode of protecting piles, by means of metallic covering and cement filling, as set forth and described.

OTHER PATENTS OF GENERAL INTEREST RECENTLY ISSUED.

INSTRUMENT FOR IMITATING THE SKIN.—Frederick Klee assignor to Louis Klee, Williamsburg, N. Y.: I claim the arrangement of the screw, f, piston, d, spring, a, nut, g, and handle, c, applied relatively to the cylinder, A, combined and operating in this manner and for the purpose herein specified. 2d, The diaphragm, h, in combination with the cylinder, A, and pricks, b, constructed and operating substantially as and for the purpose set forth.

REDUCING METALLIC OXIDES.—Jacob Reese, Pittsburg, Pa.: I claim, 1st, Deoxidizing metallic oxides while in a molten or liquid condition, by means of hydrogen gas or a vapor of carbon or of hydrocarbon, or a mixture of such vapor or gas so that these oxides or ores may be reduced to a metallic condition without the use of additional fuel, substantially in the manner hereinbefore described. 2d, The use of liquid petroleum or other liquid hydrocarbon in the manufacture of iron or steel and other metals, substantially in the manner and for the purposes hereinbefore described. 3d, The use of hydrogen gas for the purpose of deoxidizing metallic oxides, substantially in the manner hereinbefore described. 4th, Making liquid wrought or malleable iron from the ore by subjecting the ore while in a melted condition to the action of hydrogen gas or hydro-carbureted vapor, or a vapor of carbon, or a liquid hydrocarbon, substantially as hereinbefore described. 5th, Making cast-steel by deoxidizing iron ore while in a molten condition, in the manner hereinbefore described, and subjecting the pure iron thus produced to a vapor of carbon or hydrocarbon, or adding thereto a liquid carbureted or hydrocarbon, until the requisite amount of carbon is added substantially as hereinbefore described. 6th, Making cast iron by deoxidizing iron ore in a melted condition in the manner described, and supplying the requisite amount of carbon in a gaseous or liquid form, substantially as hereinbefore set forth. 7th, Refining iron and steel by means of a carbon in a gaseous or liquid form, to which, after the metal has been deoxidized thereby, a sufficient amount of air, water, or steam is added to support the combustion of the carbon thus added as fuel to the melted metal. 8th, Making a belly in the lower side of the deoxidizing

chamber or reducer so as to hold the charge of melted ore away from the tuyere holes in the bottom of the reducer until the reducer is raised to admit the deoxidizing vapor or liquid, substantially as hereinbefore described. 9th, The use of a valve on one of the trunnions of the reducer, constructed substantially as hereinbefore described, so as to shut off the deoxidizing vapor or liquid from entering the reducer, when in position to receive its charge, and open the communication when the reducer is restored to its position for working.

MANUFACTURE OF BRICKS.—Frank Jones, Boston, Mass.: I claim, 1st, The process substantially as above described of applying to bricks a preparation of mastic or cement. 2d, The apparatus constructed and operating substantially as above described for applying mastic to bricks separately before being laid. 3d, As an improved article of manufacture, I claim a mastic-covered brick prepared substantially as above described.

LIGHTING GAS BY ELECTRICITY.—Samuel Gardiner, Jr., New York city: I claim, 1st, The combination with a gas-burner of an electrical conducting cord and tassel, D, D', connected with the poles of a battery, substantially as above described. 2d, The combination with the above, of the stiff wire, G, igniting-finger, J, lever, L, and spring, M, substantially as described. 3d, In combination with the electrical lighting devices herein described, I claim the non-conducting or insulating stud, R, employed in the manner described.

TURNING GAS-COCKS BY ELECTRO-MAGNETISM.—Samuel Gardiner, Jr., New York City: I claim, 1st, Turning a gas-cock by means of a sliding-rod, E, and click, G, acting directly upon the toothed-wheel, H, on the axis of said gas-cock, and employed in combination with an armature, B, and magnet, A, A, substantially as described. 2d, The combination with this armature, B, of the guides, C, C, and springs, K, substantially as and for the objects specified. 3d, The stop or stud, s, attached to the sliding-rod, E, and employed to limit the motion of the wheel, H, as set forth. 4th, The combination with the wheel, H and E, and click, G, of the retaining spring, J, applied and operating in the manner and for the purpose substantially as described. 5th, In combination with the apparatus herein described, I claim the helical spring, D, adjustable collar, M, and thumb-screw, N, arranged as described and employed for the purposes specified.

PATENTS can be obtained for citizens on this Coast, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. DEWEY & CO., Patent Agents, 505 Clay street, San Francisco.

FIRE ANNIHILATOR.—A new plan for extinguishing fires has been invented in New York, which consists in a series of iron pipes, perforated with holes, which can be placed beneath the beams of every story in a building, and, when so placed, the water can be ejected through them by means of a pipe leading to the engines in the street, and each story receives a continuous shower bath of water. The advantages of this are that it keeps the fire under control and saves the necessity of opening the building. It also preserves the floors and renders it safe for the firemen to enter when the fire is well under way. Its simplicity and cheapness are not the least of its excellencies.—Flag.

The ewms annihilator was invented by a lawyer of this city, some six months ago. The inventor made application personally for a patent; but his papers were lately returned to him on account of some informality in their preparation. Had he employed a suitable attorney to manage his case, in all probability it would have been allowed ere this, and the conversion of his rights by some New Yorker would have been avoided. When will inventors learn a lesson?

A VEIN OF TRIPOLI, twenty feet in thickness, fifty rods wide, and a mile in length, has been discovered near the town of Stillwater, Minn. It is said to be free from acids, mica, or calcareous earths, and equal to the Mount Eagle tripoli, so celebrated in this country and Europe. Nothing has ever yet been discovered equal to the pure tripoli for cleansing and burnishing all metallic and glass surfaces. Tripoli is composed of the exuviae of infusoria and is entirely an animal production, although found in the earth.

TO CORRESPONDENTS.—We are in receipt of a communication from "M." of Marysville, which will receive attention next week; also a letter from "Washoe," dated Rocky Bar, Alturas County, Idaho Territory.

WINDOW SASH HANGING IMPROVEMENT.—Mr. John Henley, at 551 Mission street, an old Californian and resident of this city, has taken action to procure letters patent through our agency for a new method of hanging window sash. By his plan weights are entirely dispensed with, two cords and two pulleys being all that is required. A pulley is placed at each of the top corners of the window frame. One end of the cord is fastened to the upper sash, passed over the pulley and attached to the lower sash, whereby the two sashes are made to balance each other as perfectly as may be required. Raising one sash lowers the other. By contracting the lower sash a few inches the longest, an open space can be obtained at the top of the window by reversing the sashes. The inventor claims that by his plan the cost of hanging a window will amount to about fifty cents, against \$2.50 by the old style. If true, this will create a revolution in this branch of trade. This window casings will certainly be the strongest by this new, simple and cheap method.

THE STATE AGRICULTURAL SOCIETY will hold its annual Fair at Sacramento, commencing on the 10th of September next, and continuing one week. The Society has appropriated \$10,000 for premiums, and the Central Pacific, Sacramento Valley, and California Central Railroads, and California Steam Navigation Company, will pass all freight intended for exhibition at the Fair free, returning on the return trip the freight paid on this trip to Sacramento, upon a certificate that this articles have been so exhibited; and the same companies will pass all members of the Society, on the return trip from the Fair, free.

AUCTION HOUSE.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 418 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.

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PAINT OILS!
CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATSFOOT, SOILED AND RAW LINSSEED, CASTOR AND CHINA NUT.

—ALSO,—
SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of MILL owners and Engineers to our superior **PARAFFINE OIL**, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!
An elegant and complete assortment on hand. 4v13-3m19 414 Front street, San Francisco.

MANUFACTURERS AND INVENTORS.

PACIFIC PATENT AGENCY, FOR INTRODUCING Patents and Patented Articles into practical use, and to facilitate communication between producer and consumer.

Northeast corner of California and Kearny streets, San Francisco. J. H. ATKINSON, 4v13-1m

MARSH, PILLSBURY & CO.,
DEALERS IN
Hardware, Tools & Metals.
Northeast cor. Front and Pine street. 4v13-1m

Pacific Mail Steamship Co's
THROUGH LINE TO NEW YORK,
Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK.
On the 10th, 18th and 30th of each month that has 31 days.
On the 10th, 18th and 30th of each month that has 30 days.
When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following.
Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.
Departures of 18th or 19th connect with French Transatlantic Co.'s steamer for St. Nazaire, and English steamer for Southampton.
Departure of 10th connects with English steamer for Southampton, and P. R. Co.'s steamer for Central America.
Departure of the 30th connects with English steamer for Liverpool, and the port of the new mines.
The following Steamships will be dispatched on dates as given below:
July 30th—CONSTITUTION.....Capt. E. S. Farnsworth, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attendance free.
These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.
For Merchandise and Freight apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

SUBSCRIBERS who do not receive the MINING AND SCIENTIFIC PRESS in due time, are requested to inform the publishers.

THE TENACITY OF LIFE IN EELS.—It is well known that eels, after being beheaded and skinned, and having their entrails taken out, will often wriggle and move considerably. What is the philosophy of this; are they alive, or is it the involuntary action of the nerves and muscles?

The lower orders of animals, such as the snake, the eel, and the turtle, have but little brain, and their sensations, and the governing forces of their bodies, are distributed in ganglia or nervous knots, over a considerable extent of the system; while in man the motive force is located in the brain. When a man has his head severed or disconnected from the body, his dying struggles are comparatively short. It is said that a turtle will live a day or two with the head off.

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies
Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver.

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,
MANUFACTURERS OF
STEAM ENGINES,
Quartz, Flour and Saw Mills,
Moore's Grinder and Amalgamator, Mining
Pumps, Amalgamators, and all kinds of
Machinery.

Nos. 45, 47 and 49 First Street, between Market and Mission Street, San Francisco.

SAN FRANCISCO
Foundry and Machine Works.

N. E. Cor. Fremont and Mission streets,
Manufacturers of
Marine and Stationary Engines.
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

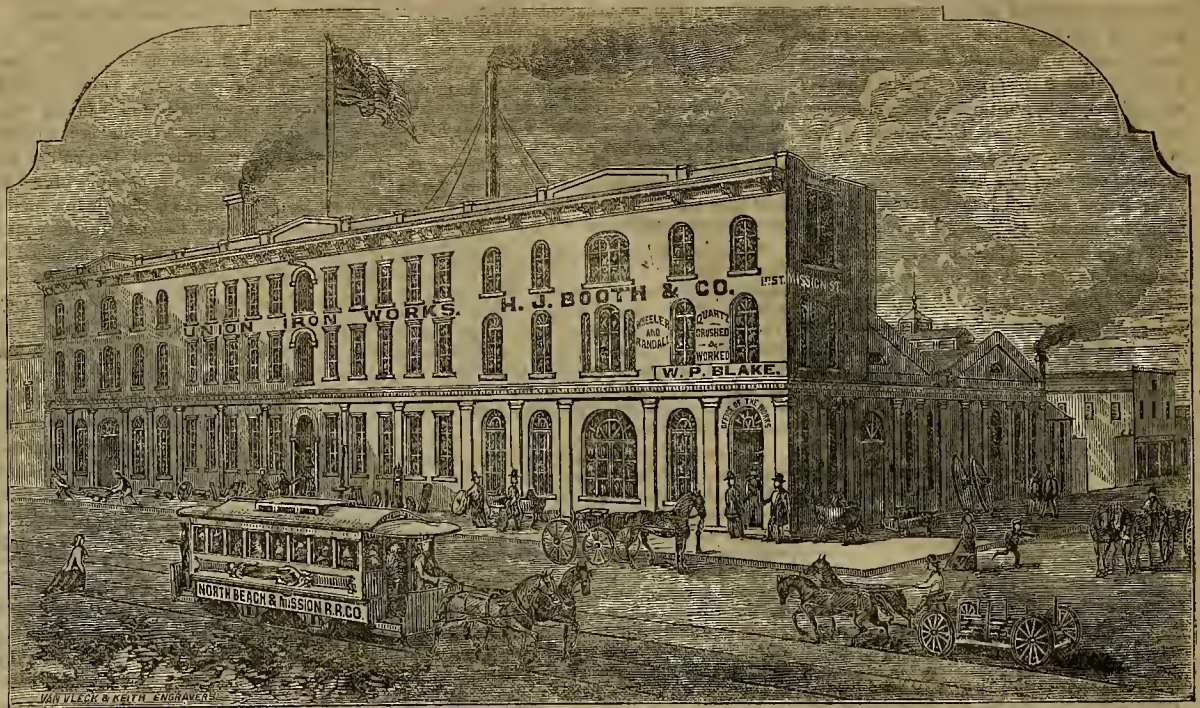
—ALSO—
Wine, Cider, Cotton and Tobacco Presses
of the latest Improved Patterns.
Dunbar's Improved Patent WIND BLAST SEPARATOR,
for Dry Crushing; Baux & Guld's Amalgamator and Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.
Dunbar's Improved Self-Adjusting Piston Packing, requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.
MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.
6v11-ly
DEVOL, DINSMORE & CO

JOHN LOCHHEAD'S
Steam Engine Works,
Beale Street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.
HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DONKEY PUMPS, Etc., Etc., Etc.
The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular.



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hays, Rags, Screw and Drop Presses, Coining Machinery, The Drivers, Bark and Malt Mills, and all kinds of Castings.
ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Bots, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.
BOILERS.—Locomotive, F.e.e. Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.
PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's Improved flat bottom pan, Beldin's pan, Yeatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, Oerman Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.
Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT.
24v12 **H. J. BOOTH & CO.**

Vulcan Iron Works Company
(ESTABLISHED 1850.)
First, Natoma and Fremont Streets.

IRON FOUNDERS,
Steam Engine and Locomotive
BUILDERS,
Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of new shops on Fremont Street, doubling the capacity of the original establishment. Their facilities for turning out machinery promptly and efficiently, are now unequalled in the State. Their Boiler Works have also been enlarged correspondingly.

The Company are prepared to execute orders for all classes of Machinery and Boiler Work, such as
Mining, Steamship, and Steamboat Machinery,

Railroad Machinery, Flouring Mills, Locomotives, Sugar Mills, Car Trucks, Saw Mills, Car Wheels, Hoisting and Irons; and
Manufacturing Machinery of Every Kind.

Sole Manufacturers of
HEPBURN & PETERSON'S REDUCING PAN AND AMALGAMATOR
BEATTY'S AMALGAMATOR
HEBSE & MOORE'S IMPROVED HOWELL QUARTZ CRUSHER
BAUX & GULD'S AMALGAMATOR AND SEPARATOR
SAUCHERY'S QUARTZ GRINDER AND WATER WHEEL
JONAL'S IMPROVED WATER WHEEL
LEFFEL'S AMERICAN DOUBLE TURBINE WATER WHEELS.
STEVEN'S PISTON PACKING RINGS.

They have also a large assortment of Patterns for Pumping and Hoisting Machinery, Gearing, Pulleys, Water Mill Irons, Hydraulic and Screw Presses, Retorts, Furnaces, Gate Bars, House Fronts, Ornamental Fence Posts and Fencing, Stove Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best Hard Iron, Quartz Screens of Russia
Iron Punched to Order.

Pioneer Iron Works.
KITTREDGE & LEAVITT,
MANUFACTURERS OF

FIRE-PROOF DOORS AND SHUTTERS
Steel Lined Bank Vaults and Safes, PRISON CELLS, BALCONIES, AWNINGS, Grating and Iron Fences; Stairs, Etc.

ALSO, AGENTS FOR
BUSSEY'S NEWLY PATENT COMBINATION BURGLAR-PROOF LOCK,
No KEY, or visible signs of OPENING, Corner of Fremont and Market streets, San Francisco.

Constantly on hand a large assortment of Second-Hand Fire-Proof Doors and Shutters.

LEWIS COFFEY,
LEWIS COFFEY & RISDON,
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Tush and Market streets, opposite Oriental Hotel, San Francisco.

J. F. FLYNN. HENRY FRANK.

FLYNN & FRANCE,
EMPIRE FOUNDRY.

221 Mission Street, below Beale, San Francisco. PRACTICAL IRON FOUNDERS, having located facilities for the manufacture of Light Fancy Castings, particular attention will be given to this department. We manufacture Ship Castings, Stake Irons, and all other kinds of Heavy and Light Castings, with dispatch. The patronage of the public is respectfully solicited.

HANSCOM & CO.,
Etna Iron Works!
Southeast corner Fremont and Tehama streets, SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and Amalgamator,

Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,

Giving greater power, at lower cost, than any wheel in use. Send for one of our circulars, giving full tables.

All Wheels warranted to give the power as set forth, or the money will be refunded.
Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies."

None genuine unless obtained from us. Every one warranted.
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.

NEPTUNE IRON WORKS,
Corner of Mission and Fremont Streets, SAN FRANCISCO.

MARINE, Locomotive,
And all kinds of
HIGH PRESSURE Steam Boilers
MADE.
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.

All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.
Old Boilers Repaired
D. CAMERON.

6v12-ly



JAMES MACKEN, COPPERSMITH,
No. 226 Fremont St., bet. Howard & Folsom.

All kinds of COPPER Work done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

Economy in Advertising.—THE MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than one half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

UNION IRON WORKS,
Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston Packing, for new and old cylinders, manufactured to order.
Front Street, between N and O streets, 14v11
SACRAMENTO CITY

Miners' Foundry
—AND—
MACHINE WORKS,

First St., between Howard and Folsom Streets, SAN FRANCISCO.

EVERY description of Iron and Brass Machinery, the State of California, will be furnished with dispatch at the MINERS' FOUNDRY AND MACHINE WORKS, such as
Steam Engines and Boilers, Flour, Saw and Quartz Mills, Machinery, Mining Pumps, Amalgamators, Retorts, Etc., Etc.

Particular attention will be given to the manufacture of Machinery in Sections designed for places of difficult access. Various models of Quartz Crushers, Amalgamators and Water Wheels—some in operation and on exhibition.
Parties desiring to test their ores practically, in small quantities, will be afforded ample facilities, free of cost.
All parties desiring accurate and highly finished drawings and superior Machinery, at most reasonable rates, are cordially invited to call before contracting elsewhere.

HOWLAND, ANOEL & KINO

M. GREENBERG. **W. H. MOORE.**
GREENBERG & MOORE,
Eagle Brass Foundry,
No. 43 First Street, San Francisco,
(Between Mission and Market.)

MANUFACTURERS OF all kinds of Brass and Bell Castings; Force and Lift Pumps; Cocks and Valves of every description made and repaired; Oil Globes, Steam Whistles, Hydraulic Pipe and Nozzles (for Mining purposes). Also, COUPLINGS OF ALL SIZES.

Particular attention paid to Hydraulic Pipes and Nozzles; also, to Ship Work of all descriptions. All orders from the interior will be attended to with promptness and dispatch.

23v12-3m

GEORGE T. PRACY, MACHINE WORKS,
Nos 109 and 111 Fremont Street, near corner of Mission, OPPOSITE MECHANICS' MILL, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses, —AND—
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

Special attention paid to Repairing. 24v12-3m

DEEP DIVING.—The deepest recorded descent of any submarine diver was made in November, 1866, at Brest, in efforts to reach the sunken hull of the English ship *Columbian*. Two descents were made, each of which reached a depth of 196 feet. In the first instance one of the air-pumps burst at that point, and the diver was immediately brought to the surface. The diver came up safe and sound. Fresh pipes having been secured, the diver on a subsequent day again made the descent. Having reached the same depth as before, having remained there for the space of about eight or ten minutes, he gave the signal to be hauled up. The signal was immediately complied with, but before the necessary time had expired for the apparatus to reach the surface, the diver, inclosed in his armor, was seen afloat upon the water at a short distance from the steamer from which the experimenters were working. He was immediately taken on board in a very exhausted state. He fainted twice, but by the use of proper restoratives was rendered quite comfortable in about two hours. From the time he reached 180 feet in depth, the indicator showed a pressure of six atmospheres—ninety pounds per square inch. On being taken on board from the second trial, the armor was found to have been broken, so that the water was forcing its way in and filling up the legs of the apparatus. Aside from that accident, the experiment proved conclusively that no human being could stand a pressure of ninety pounds to the square inch for any considerable length of time. On the first attempt the submarine lamp with which he was accompanied was crushed in by the pressure of the water.

MADE MONEY ENOUGH.—Elias Howe says that he shall not apply for an extension of his sewing-machine patent, which expires this year, as he has already made a million and a half dollars on it, and thinks that is enough. Mr. Howe is much more remarkable as a man, who has got money enough, than as an inventor.

A LUCKY FIND.—The *Idaho Index* of July 11th, says that it is reported that several days after the Indians made their onslaught on the Chinamen near Summit Spring, and killed and robbed many, a traveler coming up the road noticed a part of a sack of rice. Picking it up, and emptying out the contents, he discovered a package containing nine hundred dollars in coin.

GREASY ORES IN ARIZONA.—Of nothing have our miners complained more than of greasy ores (so called). This greasiness coats the quicksilver, and prevents amalgamation, and, of course, the gold floats away. This greasiness is usually, perhaps always, caused by the presence of steatite or talc in some form. In some forms this bears the name of soap-stone. Every one knows its greasy character. Its composition is silica, magnesia and water. It often contains (especially in Colorado) a small amount of carbonic acid. Meerschmann is also a variety of talc. Thus much for the composition of the mineral substance which causes the trouble. Burning may not remove the difficulty, because this combination will not be materially changed by the action of fire. It must be some substance that will have a chemical action. Quicklime has been found in many instances to have the desired effect in destroying the oily character, and has been extensively employed, and with the best of success. In some cases other mineral substances will be found to be the cause of the greasy character, and the ores must in such cases be treated differently. Sometimes roasting the ores removes the difficulty—only practice and experience can conquer in every case. Every different ore may require a different treatment. Where the talc or minerals occur it will often be found necessary, even after roasting, to use some other means, and so with other combinations, while antimony and arsenic can only be got rid of by roasting.—*Arizona Miner*.

THE EOLIAN HARP is a very simple instrument, easily constructed, and produces very pleasant music. To make one, take two strands of strong sewing silk, well waxed, a single and double twist, fastened to four pegs, one inch high, on an inch board as long as the width of your window. At one end the pins should have a thumbtack similar to a violin pin, to enable you to draw it taut. Place it in a window, the sash resting on the pins, and when the wind blows you have such sounds as the angels love. One string will produce several notes, changing as the wind is gentle or forcible.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.

Metallurgy.

G. KUSTEL,
Metallurgist and Mining Engineer,
Stevenson House, corner Montgomery and California sts.
Ores Analyzed,
Advice given, and Plans Furnished for working of different
Ores. Mines examined and reported upon.
20v11 3m

BOALT & STETEFELDT,
Metallurgists and Mining Engineers
AUSTIN, NEVADA.
Western Branch of ADELBURG & RAYMOND, No. 90
Broadway, New York. 11v11

G. W. MAYNARD, J. H. TIEMANN,
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
249 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.
19v12 1y

**Copper, Lead, Gold, Silver,
Nickel and Cobalt Ore.**

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,
Agent for Townshend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.
Special attention paid to Gold Bearing Sulphurates. 20v10 3m

Copper Ore! Copper Ore!
BOUGHT BY
CONROY & O'CONNOR,
Front, near Pine street, San Francisco.
18v12 1f

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Haskell, for the sale of his COPPER SELLING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to
JOHN N. KESLOW,
24v12 At Coffey & Riddell's, San Francisco.

**SODIUM,
Potassium, Magnesium,**
And a fresh supply of
PURE CHEMICALS.
Just received and for sale by

JOHN TAYLOR & CO.,
4v12 1m 512 Washington street.

MARTIN & CO.,
Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE
PURCHASE OF COPPER ORES.
Assaying eight per cent. and upwards of Copper to the We will make advances upon Ores of Copper.
San Francisco, Post Office Box 123. 22

**EUROPEAN
METALLURGICAL WORKS,**
—AND—
Practical Mining School,
Bryant Street, Between Third and Fourth,
SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test quantities by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process (attended to). Sulphurets, pyrites, and the so-called "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.
The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.
S. F. KIMBALL, J. R. MORPHY.
10v10

**PACIFIC CHEMICAL WORKS
—AND—
ASSAY OFFICE.**

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of

Manufacturing Chemicals,
Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FAIKENAU & HANKS,
Laboratory, corner Polson and Center streets,
Mission Dolores.
Office, 629 Washington street, San Francisco. 2v12 1m

JOHN TAYLOR & CO.
IMPORTERS,
AND DEALERS IN

ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,

Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States, PURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUPPLIES, ACIDS and CHEMICALS, constantly on hand.
San Francisco March 6, 1865. 11v10 1f

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$2.50 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

27 Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House free of charge, and to any part of the city for 50 cents.
21v12 P. E. WYNGANT, Proprietor.

INTERNATIONAL HOTEL,
K Street, between Third and Fourth,
SACRAMENTO,

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or for single individuals—all new-furnished, large and finely ventilated. No expense has been saved to make it comfortable and pleasant for guests.
Price of Rooms very low. Meals, 25 cents.
8v12 6m B. EISENMENGER.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals, 25 cents.
Board, per week, \$4.00.
Board and Lodging, per day, 1.00.
Single Rooms, 50.
Railroad Ticket Office and Stage Office on first floor.
7v12 3m A. J. SENATZ, Proprietor.

**California Steam Navigation
COMPANY.**

Steamer CAPITAL, CAPT. E. A. POOLE.
CHRYSOPELIS, CAPT. A. FOSTER.
YUSENITE, CAPT. J. CONXILL.
JULIA, CAPT. W. BROMLEY.
One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Chico, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.
Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SENATOR, leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.
Office of the Company, northeast corner of Front and Jackson streets.
13v12 B. M. HARTSHORNE, President.

Rheumatism!!
READ IT! READ IT!!

SACRAMENTO, April 16th, 1866.
H. BOWMAN—DEAR SIR: THIS IS THE FIRST WRIT. I have done in two years, and it affords me great pleasure to be able to use my pen in the service of those who are suffering, as I have suffered, by stating the following facts:
I have for two years and upwards been afflicted with CHRONIC RHEUMATISM, and until a few weeks ago I have never found anything that afforded me any relief. For three months of the time I was unable to feed myself, and for the last five months my arms have been so bent that I have not been able to dress myself. I was five months at the Warm Springs, at San Luis Obispo, and three months at a Hydropathic Institute in Stockton, and I have been under the care of six different physicians, in the vain hope of relief. About four weeks ago I was induced by a person who had been cured by it to try a bottle of RICHARD'S REMEDY FOR RHEUMATISM, and in less than twelve hours I experienced great relief. In a few days I was enabled to straighten out my arms, and I have been getting better and gaining in strength and flesh ever since. I have now the complete use of all my limbs, and, for the first time in two years, I am out of pain. I do feel for those who suffer as I have suffered, and if they will take my advice, they will lose no time in giving the RICHARD'S REMEDY a trial.
Yours truly,
GEORGE TAYLOR.

RICHARD'S REMEDY is for sale by
H. BOWMAN,
Druggist, Sacramento, 20v12

A Rare Chance!
A Splendid Business in Alameda County.

FOR SALE AT A GREAT BARGAIN,
400 ACRES OF LAND,

INCLUDING
Landing, Wharf, Three Capacious
Warehouses,

Capable of holding 12,000 Tons, which amount of grain was stored and shipped the past year. Connected with said business there is an extensive Lumber Yard; sales during last year, two million feet, which sales, and the entire business, can be largely increased.

The above is a rare opportunity for parties desirous of engaging in an active business that will pay a large dividend on the investment. Satisfactory reasons given for selling, and all information desired can be obtained on application by mail, or otherwise, to

G. F. SMITH,
Notary Public and Searcher of Records, Office "Beatty House," San Leandro. 23v12 1m

Capitalists, Attention!

**QUARTZ MILL & MINING PROPERTY
FOR SALE
In Nevada County.**

A NEW 8-STAMP QUARTZ MILL, 7 LEDGES AND 640 acres heavily timbered Land, near Eureka, Nevada County, are now offered for sale. The Mill is run by steam-power, and is in complete order for business. The ledges, which form the principal value of this property, are all large and well-defined, but require a further outlay of capital, in order to make them remunerative. For the lack of means to properly develop these claims, the present owners are disposed to sell the same for a reasonable price. Capitalists wishing to engage in mining will find this a splendid opportunity to purchase a property that will bear ripe scrutiny, and offers superior inducements as an investment.

For address and further information, inquire of the Publishers of the Mining and Scientific Press, 505 Clay Street, San Francisco. 22v12

THE PRESS is a large, sixteen-page paper, and is truly a valuable assistant to the mining interests of the Pacific Coast.—*Nye County News*.

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & Co., Patent Agents.
San Francisco, May 1st, 1866.

It is filled with reliable, useful and interesting matter and to our miners who wish to understand the theoretical, as well as the practical part of their business, the MINING PRESS will be found an invaluable aid.—(Nye County News)

Professional Cards.

PATENT BUSINESS.

We have lately associated with us is the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner.

San Francisco, June, 1866. Patent Solicitors.

FREDERICK MANSSELL.

Mechanical & Architectural Draughtsman,
No. 422 California street, corner of Leidsdorff.

Drawings of Monuments made for parties applying for patents at Washington or London.

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
COURT COMMISSIONER, appointed by the Fourth District Court, COMMISSIONER OF DEEDS for Nevada and Massachusetts,
Court Block, San Francisco.

Entrances opposite City Hall, Merchant street, and 636 Broadway.

DR. H. AUSTIN,

DENTIST,

No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER SAN FRANCISCO BATHS]
SAN FRANCISCO. 20v10-ay

DR. D. R. BECKFORD,
OCULIST,

Office of Dr. Beckford's "Golden Eye Water,"
16v12-3m NO. 719 CLAY STREET.

AUGUST KUNAST,
Stock Broker.

Member of the
San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
Office, No. 540 Washington Street, San Francisco. 2v10

WILLIAM P. BLAKE,
MINING ENGINEER,
Will make Surveys and Examinations of Mines, or give advice regarding their working, the erection of Machinery, etc.
Office at Union Iron Works, corner of First and Mission streets, or Lock Box 2077 Post Office, San Francisco. 11v22-ay

GEORGE H. BAKER,
Lithographer & Engraver,
No. 522 Montgomery St., San Francisco.
MINING STOCK CERTIFICATES LITHOGRAPHED
IN MOST ARTISTIC STYLE. CALL AND
EXAMINE SPECIMENS.
10v8-tr

SHERMAN DAY,
Mining Engineer,
No. 57 Montgomery Block, San Francisco,
Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines.
22v1

ENGRAVING AND ELECTROTYPING

THE PROPRIETORS OF THE MINING AND SCIENTIFIC PRESS, having now in their office one of the best draughtsmen in the United States, are prepared to furnish Wood Engravings, for illustrating all kinds of machinery, buildings, mines, trade marks, etc., in a superior and artistic manner. We shall give our customers in this line satisfactory work, and reasonable prices. Orders for stereotyping and electrotyping promptly filled.

DEWEY & Co.,
Publishers and Patent Agents.

City College Laboratories,

South-east Cor. Stockton and Geary sts.

Practical and Analytical Chemistry and Metallurgy.

THOMAS PRICE,
Professor of Chemistry,
(Formerly of the Normal College, Swansea.)

WILL GIVE PRACTICAL INSTRUCTIONS IN QUALITATIVE AND QUANTITATIVE ANALYSIS AND ASSAYING. The course qualifies students for the application of Chemistry to METALLURGY, MANUFACTURING ARTS, and MINING PURPOSES.

PHARMACEUTICAL AND TECHNICAL CHEMISTRY, such as is required by Medical and Pharmaceutical Students, will be taught to such students as may require it.

Course of General Chemistry.

Evening Lectures will be delivered every Tuesday, at half-past seven o'clock, P. M., in the Philosophical Hall of the College, without extra charge to the students in the Institution.
On and after the 14th of February, the Laboratories will be open every day, except Sundays, from 8 A. M. to 5 P. M. For further particulars, address

REV. P. V. VEEDER,

Principal of the City College.
Or at 406 California Street.

YOUNG MEN WANTED!

Pacific Business College!

751 Market street, between Third and Fourth,
SAN FRANCISCO.

AN INSTITUTION DESIGNED TO PREPARE YOUNG and middle-aged men for an active and successful business life.

BOOK-KEEPING, PENMANSHIP, COMMERCIAL LAW, COMMERCIAL ARITHMETIC, CORRESPONDENCE, MODERN LANGUAGES, ETC.,

Practically taught.

This College forms a link of the

American Chain of Commercial Colleges,

Located in the principal cities of the United States, and is the only institution on the Pacific coast conducted on actual BUSINESS PRINCIPLES.

Regular Banks and Business Offices have been introduced.

By which we are enabled to fit our Students in the BEST POSSIBLE MANNER, and at the LEAST EXPENSE of time and money, for the practical duties of the Counting House.

Students can enter at any time of the year, there being no vacations. Each student receives individual instruction, with the exception of Lectures and other general exercises.

The College Review.

Giving full particulars of the College, can be had FREE, by calling at the College, or addressing

E. P. HEALD,

3v13 President Business College, San Francisco.

SAN JOSE INSTITUTE

—AND—

Commercial College,

SAN JOSE,

Santa Clara County, California.

THE NINTH SESSION WILL COMMENCE ON THURSDAY, July 26th, 1866.

A new, practical and complete Business Course has been adopted, differing from that of any other School in the State. We call the especial attention of Business Men, or those wishing to give their sons a thorough practical Business Education, to this fact, and request them to send for a Circular before deciding what School they will attend. Ample accommodations for boarders in the Seminary. Ornamentals, Music, Ancient and Modern Languages taught.

Special arrangements have been made for boys between the ages of ten and eighteen.

For further particulars or Circular, address

FREEMAN GATES, Principal.

Or, GEO. E. HOUGHTON, Prin. Com. Dept. 1v13tr

SACRAMENTO SEMINARY.

BOARDING SCHOOL

FOR YOUNG LADIES,

Tenth Street, between F and G.
SACRAMENTO, CAL.
Session commenced January 8, 1866.

MR. AND MRS. HERMON PERRY,
7v12tr Principals.

SANTA CLARA COLLEGE, S. J.,

SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SIXTEENTH ANNUAL SESSION of this College will commence on

Monday, August 20th, 1866.

TERMS—Tuition in the Classical and Scientific Department; Boarding and Lodging; Washing and Mending of articles washed; School Stationery; Medical Attendance and Medicine; fuel, light, baths, etc., per session of ten months, \$350.
For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

REV. A. MARASCHI, S. J., President.

Commercial Academy for Ladies & Gentlemen.

No. 111 K STREET, SACRAMENTO, CALIFORNIA.

Established in 1863, where students can acquire a thorough business education. Double Entry Book Keeping, Practical and Ornamental Penmanship and Drawing, Latin, French, the Common and Higher English Branches, taught on reasonable terms. Students from any part of the State can procure board and lodging in private families, near the Academy, at from \$4 to \$6 per week. For terms, address, MART TAYLOR, Principal, Miss SARAH J. WEBB, Associate Principal. 2v12

By MAIL.—THE MINING AND SCIENTIFIC PRESS will be sent by mail to any part of the civilized world. In case of removal, subscribers have only to inform us of the post-office address of their old and new location, and the paper will be sent accordingly.

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

VALUABLE MINES!

FOR SALE

IN NEVADA COUNTY.

FOUR VALUABLE QUARTZ MINES, SITUATED AT THE base of Deer Mountain, and about equi-distant from Grass Valley and Nevada City, are now offered for sale. These ledges run parallel with each other, are wide and well defined, varying from fifteen inches to four feet in width, and have been sufficiently developed to prove them to be of great prospective value. One of them is an extension of the famous Star Spangled Banner. A shaft has been sunk on the extension to a depth of thirty feet, where the ledge is fully two feet wide, and prospects quite as well as the Banner did at that depth. On account of water, further progress downward was impossible without machinery. These claims are accessible at all seasons of the year, and wood and water exist in their immediate vicinity in great abundance. Parties who would prefer putting up machinery and sinking on one or more of these claims, for an interest in them, can do so, and liberal terms will be granted by the present owners.

Persons desiring to purchase claims, or erect machinery to prospect the same, will find this a capital chance. For further information, reference may be had on application to the Editors and Publishers of the MINING AND SCIENTIFIC PRESS, 505 Clay street, San Francisco. 2v12

ANNUAL REPORT

—OF THE—

Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 22, 1861, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD.....\$750,000
II.—The amount of the Assets is ONE MILLION AND FIFTY ONE THOUSAND FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY SEVEN CENTS, \$1,051,420.37

III.—The Company has NO DEBTS.
IV.—The amount of insurance effected during the year, and which remained in force December 31, 1865, was.....\$12,973,949
Marine.....484,408
This Company commenced underwriting Marine Risks, August 1, 1865.

V.—This Company insures against the following risks, viz: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.

Also, on CARGOES, TREASURE, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL MARINE AND INLAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will require to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

J. HUNT, President.

San Francisco, January 19, 1866.

William Alvord, J. M. Wilson, G. W. Bell,
Alex. Weill, M. Cheeseman, Chas. Mayne,
Alm. Seligman, Wm. Hooper, Ligon Tevis,
Anson G. Sikes, John B. Newton, T. L. Barker,
John O. Bray, Edward Martin, Jas. De Fremery,
A. Hayward, D. O. Mills, Wm. Sherman,
D. W. C. Rice, H. Hansmann, John O. Bart,
C. Meyer, L. B. Benchley, Alfred Borel,
U. J. Oliver, Moses Heller, G. T. Lawton,
Alpheus Bull, William Scholle, E. L. Goldstein,
W. C. Ealston, Moses McLane, J. S. Ellis,
John Wightman, Oliver Eldridge, P. L. Weaver,
L. Sachs, A. B. Forbes, David Stern,
Frederick Billings, J. G. Kellogg.

State of California, City and County of San Francisco, ss. On this nineteenth day of January, A. D. one thousand eight hundred and sixty six, personally appeared before me, H. S. HOMANS, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. RALSTON, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.

A. J. RALSTON,
Notary Public.

Subscribed to before me, this 19th day of January, A. D. 1866.

H. S. HOMANS, Notary Public.

5v12-3m

NEW YORK PRICES.

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New Mining Advertisements.

"Arbitrios" Mining Company, Batopilas

District, State of Chihuahua, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 28th day of May, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Mrs. D. D. Shattuck	12	10	\$10 00
Mrs. Harriet W. Henley	131	3	3 00
A. C. Hendley	13	15	15 00
A. C. Hendley	143	10	10 00
A. C. Hendley	145	6	6 00
A. C. Hendley	160	35	35 00
A. C. Hendley	182	25	25 00
Mrs. D. D. Shattuck	14	10	10 00
Mrs. D. D. Shattuck	183	3	3 00
George B. Bayley	112	25	25 00
George B. Bayley	153	7	7 00
George B. Bayley	77	50	50 00
George B. Bayley	185	13	13 00
Margaret Madigan	141	6	6 00
Margaret Madigan	186	1	1 00
Chas. F. Schulze	67	5	5 00
Chas. F. Schulze	68	5	5 00
Chas. F. Schulze	60	25	25 00
Chas. F. Schulze	202	9	9 00
R. R. Stoddard	98	3	3 00
R. R. Stoddard	197	1	1 00
R. R. Stoddard	221	10	10 00
John J. Scotchler	242	10	10 00
J. N. Willard	243	25	25 00
Wm. Gildemeister	125	6	6 00
Wm. Gildemeister	130	10	10 00
Wm. Gildemeister	133	15	15 00
Wm. Gildemeister	170	8	8 00
Wm. Gildemeister	227	20	20 00
Wm. Gildemeister	228	20	20 00
Wm. Gildemeister	229	10	10 00
Wm. Gildemeister	234	4	4 00
Wm. Gildemeister	235	68	68 00
Thos. A. Hughes	168	25	25 00
Chas. F. Brown	208	8	8 00
Chas. F. Brown	209	4	4 00
Chas. F. Brown	212	5	5 00
Chas. F. Brown	218	10	10 00
Chas. F. Brown	219	4	4 00
F. Thomas	248	121	121 00
F. Thomas	247	13	13 00
F. Thomas	248	15	15 00
F. Thomas	249	10	10 00
F. Thomas	250	8	8 00

And in accordance with law, and an order of the Board of Trustees, made on the 28th day of May, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the 13th day of August, 1866, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. MARTINON, Secretary.

Office, 311 Montgomery street, San Francisco, Cal. jy28

Coahortilla Gold, and Silver Mining Com-

pany, Sinaloa, Mexico.

Notice is hereby given, that a Special Meeting of the shareholders of the Coahortilla Gold and Silver Mining Company, will be held at the Company's Office, Room 3, second floor, No. 506 Montgomery street, San Francisco, on SATURDAY, the 25th day of August, 1866, at 10 o'clock A. M., at which a full representation of the capital stock is requested. By order of the Board of Trustees.

Jy28 T. W. COLBURN, Secretary.

Del Norte Comstock Company, —Leontia

Del Norte County, California

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of July, 1866, an assessment of one dollar and forty-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his Office, No. 331 Montgomery street, San Francisco.

Any person upon which said assessment shall remain unpaid on the thirtieth day of August, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary.

Office, 331 Montgomery street, San Francisco, Cal. jy28

George Washington Gold and Silver Min-

ing Company, Silver Mountain District, Alpine County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 28th day of June, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adamsen, C. P.	174	5	\$7 50
Bowland, Wm	211	6	7 50
Boggs, Geo W	137	8	9 00
Boggs, A G	67	11	18 50
Christianson, Philip	175	16	22 50
Christianson, Philip	176	10	16 00
Cook, A J	93	10	15 00
Clark, J Warren	not issued	10	15 00
Clark, Miriam	124	25	37 50
Chohson, Margaret	238	2	3 00
Custer, John	278	5	7 50
Coon, M R	324	25	37 50
Grigsby, T L	199	10	15 00
Grigsby, R F	169	10	15 00
Grigsby, A D	100	10	15 00
Grigsby, E D	79	10	15 00
Katber, Chas	90	16	22 60
Linn, Geo	163	10	15 00
Mosher, Wm H	255	5	7 50
Miller, J E	265	10	15 00
Miller, J E	305	2	3 00
Pearson, J N	212, 213 6-a	10	16 00
Phillips, W L	92	16	22 60
Phillips, W L	275	10	15 00
Risley, J B	108	4	6 00
Risley, J B	177	5	7 50
Smith, J John W	173	14	21 00
Sloan, H H	289, 290 10-ca	20	30 00
Sloan, H H	326	6	9 00
Vick, J	285	10	15 00
Vick, J	293	5	7 50
Whitton M S	185, 186, 187, 188		
	189, 190, 191, 192		
	193, 194, 195, 196	10-a 120	180 00
Whitton, W M	214	10	15 00
Whitton, C J	299	5	7 50
Ward, Norah	297	3	4 50
Wittram, Charles	317	10	16 00

Sweet Vengeance Gold and Silver Mining Company, Brown's Valley, Yuba County, California.
 Notice—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Carroll, H.	36 and 479	10	\$30 00
Carroll, H.	476	10	15 00
Brown, Thos.	71	10	10 00
Brown, Wm H.	154 and 193	5	10 00
Brown, Geo.	430	10	10 00
Best, Ed F.	164	10	10 00
Byerly, J. B.	142	100	100 00
Byerly, J. B.	101	5	4 00
Byerly, J. B.	245	4	4 00
Byerly, J. B.	239 and 274	10	20 00
Byerly, J. B.	517	40	40 00
Byerly, J. B.	554	80	30 00
Byerly, J. B.	83	20	20 00
Byerly, J. B.	141	15	15 00
Byerly, J. B.	275	10	10 00
Byerly, J. B.	492	120	120 00
Byerly, J. B.	516	25	25 00
Byerly, J. B.	382	35	35 00
Byerly, J. B.	564	7	7 00
Byerly, J. B.	504	8	3 00
Byerly, J. B.	48	10	10 00
Byerly, J. B.	292	5	5 00
Byerly, J. B.	234	45	45 00
Byerly, J. B.	424 and 425	15	30 00
Byerly, J. B.	175	5	5 00
Byerly, J. B.	234	9	9 00
Byerly, J. B.	601	100	100 00
Byerly, J. B.	592	200	200 00
Byerly, J. B.	509	100	100 00
Byerly, J. B.	538	100	100 00
Byerly, J. B.	107, 165, 200,	243	20 00
Byerly, J. B.	600	200	200 00
Byerly, J. B.	104	10	10 00
Byerly, J. B.	101	5	5 00
Byerly, J. B.	192	5	5 00
Byerly, J. B.	553	4	4 00
Byerly, J. B.	169 and 182	15	30 00
Byerly, J. B.	180	10	10 00
Byerly, J. B.	271	50	50 00
Byerly, J. B.	537	100	100 00
Byerly, J. B.	273	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, on the fifteenth day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

F. S. SPRING, Secretary.
 Office, No. 705 Sansome street, San Francisco, July 28

Tuolumne Mountain Gold and Silver Mining Company, Old Buchanan Ledge, Tuolumne County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of July, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, Room No. 22 Court Block, 636 Clay street (up stairs), San Francisco, California. Any stock upon which said assessment shall remain unpaid on the twenty-second (22d) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eleventh (11th) day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

D. F. VERDENAL, Secretary.
 Office, Room No. 22 Court Block, 636 Clay street (up stairs), San Francisco, California. July 23

Mining Notices--Continued.

Antioch Premium Petroleum Company--Location of Works: Antioch, Contra Costa County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of June, 1886, an assessment of two dollars per share was levied upon the capital stock of said Company, payable at once in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the 30th day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 29th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

BENJ. R. GORE, Secretary.
 Office, corner Pacific and Battery streets, San Francisco, Cal. July 27

Arizona Consolidated Mining Company, Earle District, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on Tuesday, the third day of July, 1886, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, at the office of the Company, No. 511 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 31st day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 29th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

G. W. BURNELL, Secretary.
 Office, No. 511 Clay street, San Francisco. July 27

Assurance Mining Company--Location: Occidental Lode, San Benito Mining District, County of Monterey, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 22d day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, Room No. 4, 302 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the 1st day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 20th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. H. RUSSELL, Secretary.
 Office, Room No. 4, 302 Montgomery street, San Francisco.

Postponements and Alterations.--Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. Now advertisements should be sent in as early as possible.

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and the execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for Book and Pamphlet Printing entrusted to the Mining and Scientific Press Job Office.

Cordillera Gold and Silver Mining Company,
 Chihuahua, Mexico Mining District, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, No. 321 Washington street, San Francisco, California. Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the fifteenth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. R. REED, Secretary.
 Office, 321 Washington street, San Francisco, Cal., near Front.
 N. R.--Until further notice, all advertisements of this Company will appear in the Mining and Scientific Press, San Francisco, Cal., July 10th, 1886. July 21

Cortez Gold and Silver Mining Company.
 Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that the Annual Meeting of the Stockholders of the above-named Company, will be held on FRIDAY, the tenth day of August next, 1886, at 3 o'clock P. M., at the office of the Company, for the election of Trustees to serve the ensuing year, and for the transaction of other business.

R. N. VAN BRUNT, Secretary.
 Office, No. 331 Montgomery street, San Francisco, Cal. San Francisco, July 9th, 1886. July 14

Costa Silver Mining Company, Costa District, State of Sonora, Mexico.

Notice--There are delinquent upon the following described stock, on account of assessment levied on the twenty-sixth day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Arey, Walter W.	463	50	\$50 00
Arey, Walter W.	588	25	25 00
Armes & Dallam	557	20	20 00
Baylis, J. H.	61	5	5 00
Baylis, J. H.	62	5	5 00
Baylis, J. H.	64	10	10 00
Baylis, J. H.	55	10	10 00
Baylis, J. H.	50	10	10 00
Baylis, J. H.	57	23	23 00
Baylis, J. H.	58	40	40 00
Baylis, J. H.	69	60	60 00
Baylis, J. H.	80	60	60 00
Baylis, J. H.	81	100	100 00
Baylis, J. H.	62	100	100 00
Cheney, Gardner S.	494	5	5 00
Crowley, Timothy	588	11	11 00
Durney, A. F.	121	103	103 00
Durney, A. F.	468	131	131 00
Durney, A. F.	478	12	12 00
Durney, A. F.	495	40	40 00
Durney, A. F.	589	30	30 00
Durney, A. F.	551	100	100 00
Edison, James	110	5	5 00
Flick, W. F.	487	25	25 00
Jordan, James	28	5	5 00
Kleinhaus, T. P.	585	20	20 00
Looney, Thomas	623	10	10 00
McComb, Annie R.	400	10	10 00
Rice, J. M.	483	5	5 00
Scholl, Michael	479	10	10 00
Scholl, Michael	490	10	10 00
Scholl, Michael	517	30	30 00
Toland, H. H.	105	123	123 00
Toland, H. H.	122	100	100 00
Thompson, J. D.	477	103	103 00
Thompson, J. D.	300	100	100 00
Thompson, J. D.	552	135	135 00
Thompson, J. D.	563	50	50 00
Thompson, J. D.	554	25	25 00
Thompson, J. D.	555	25	25 00
Thompson, J. D.	624	20	20 00
Webb, Francis A.	627	80	80 00

And in accordance with law, and an order of the Board of Trustees, made on the 20th day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at the auction rooms of Maurice Dore & Co., 327 Montgomery street, San Francisco, on the 17th day of July, 1886, at the hour of 12 o'clock M. of said day to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHARLES BAUM, Secretary.
 Office, 610 Battery street, San Francisco, Cal. July 20

Postponement.--The above sale is hereby postponed until Saturday, the twenty-eighth (28th) day of July, 1886, at the same hour and place. By order of the Board of Trustees.

CHARLES BAUM, Secretary.

Dianna Gold and Silver Mining Company,
 Lander County, Nevada.

Notice--There are delinquent upon the following described stock, on account of assessment levied on the seventh day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allen, H. H.	236	3	\$15 00
Alman, Jno	304	7	35 00
Alman, Jno	315	8	30 00
Bateman, J. C.	211	4	20 00
Biedman, E. G.	333	17 1/2	87 50
Cutter, H. F.	14	21	105 00
Cutter, H. F.	200	5	25 00
Cutter, H. F.	248	10	50 00
Camp, Jas	138	10	50 00
Dawley, Jas M & Co	361	5	25 00
Dawley, Jas M & Co	102	25	125 00
Dawley, Jas M & Co	164	10	50 00
Licht, C. H.	2	8 1/2	31 25
Ludenberg, T. E.	112	3	15 00
Ludenberg, T. E.	357	2	10 00
Ladd, C. J.	115	10	50 00
Neyman, H. J.	334	1	5 00
Waterman, E. R.	208	2	10 00
Welch, C. W.	208	10	50 00

And in accordance with law and an order of the Board of Trustees, made on the seventh day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Messrs. Jones & Bondixen, on Friday, the tenth day of August, 1886, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary.
 Office, 402 Front street, San Francisco, Cal. July 21

THE MINING PRESS has entered upon its thirteenth volume. It is a valuable publication in its sphere, and its sphere is a large and important one. [Marysville Appeal.]

Eagle Quartz Mining Company--Location of Works: Amador County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth (19th) day of July, 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 10 Exchange Building (713 Montgomery street), San Francisco, California. Any stock upon which said assessment shall remain unpaid on the eighteenth (18th) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN M. BURNETT, Secretary.
 Office, No. 10 Exchange Building, San Francisco, Cal. July 14

Great Central Mining Company--Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second (2d) day of July, A. D. 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States of America, to the Secretary, at the office of the Company, No. 302 Montgomery street, between the hours of 4 and 5 P. M. Any stock upon which said assessment shall remain unpaid on the third (3d) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the twenty-seventh (27th) day of August, A. D. 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.
 Office, No. 302 Montgomery street, San Francisco. July 7

Nonpareil Gold Mining Company, Deer Flat, Tuolumne County, California.

Notice--There are delinquent upon the following described stock, on account of assessment levied on the ninth (9th) day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
W. B. Agard	13	30	\$30 00
W. B. Agard	20	20	20 00
Thomas Foulkes	14	20	20 00
Thomas Foulkes	23	10	10 00
Thomas A. Hughes	10	10	10 00
Thomas A. Hughes	29	10	10 00
G. W. Beaver	45	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth (9th) day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the saleroom of Cobb & Slaton, 407 California street, San Francisco, on the thirty-first (31st) day of July, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. A. ELDRIDGE, Secretary.
 Office, Merchants' Exchange Building, corner Washington and Battery streets, San Francisco, Cal. July 14

Gold Hill Tunneling Gold and Silver Mining Company--Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice--The Third Annual Meeting of the stockholders of the above named Company, will be held at their office, 415 Montgomery street, San Francisco, Cal., on SATURDAY, the twenty-first (21st) day of July, 1886, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WEGENER, Secretary.

N. B.--All stockholders who are not present are requested to file their proxies with the Secretary. July 23

Postponement.--The above meeting is hereby postponed until Tuesday, the 31st day of July, 1886, at 3 o'clock P. M. July 21

R. WEGENER, Secretary.

Lady of the Lake Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 29th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the twenty-first day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 2d day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 10th day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLIS, Secretary.
 Office, No. 302 Montgomery Street, Room No. 2, third floor, San Francisco, Cal.

N. B.--By resolution of the Board of Trustees, it was ordered that a discount of three per cent. be allowed on all payments made prior to August 2d, 1886.

WM. HOLLIS, Secretary.

Leland Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given that at a meeting of the Board of Trustees of said Company, held on the 20th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the 21st day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the 22d day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 10th day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLIS, Secretary.
 Office, No. 302 Montgomery street, Room No. 2, third floor, San Francisco, Cal.

N. B.--By resolution of the Board of Trustees, it was ordered that a discount of three per cent. be allowed on all payments made prior to August 2d, 1886.

WM. HOLLIS, Secretary.

Lady Bryan Gold and Silver Mining Company--Location of Works: Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of July, 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, 323 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the eleventh day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. C. HOWARD, Secretary.
 Office, 323 Montgomery street, San Francisco. July 21

Scott Mining and Exploring Company--Location of Mines, etc., in Humboldt County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of July, 1886, an assessment of fifty-five cents per share was levied upon the capital stock of said Company, payable on the twenty-first day of July, 1886, in United States gold and silver coin, to the Secretary, at 224 Front street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

V. B. POST, Secretary.
 Office, 1421 Taylor street, San Francisco, Cal. July 21

Nuestra Señora de Guadalupe Silver Mining Company, Yavapai District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 25th day of June, 1886, an assessment of No. 24, of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. FEIFFER, at the office No. 210 Post street, or to the Treasurer, A. HIMMELMANN, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the 31st day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the 15th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. FEIFFER, Secretary.
 Office, 210 Post street, San Francisco, Cal. July 20

Postponement.--The day for deeming stock delinquent on the above assessment is hereby postponed until Monday, the 27th day of August, 1886, and the sale thereof until Monday, the 17th day of September, 1886. By order of the Board of Trustees

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Fram; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and e, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been harnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.

Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
171 San Francisco.

IRON!

Glasgow Iron and Metal

IMPORTING COMPANY,

Nos. 25 and 27 Fremont street, San Francisco,

Keep constantly on hand a large assortment of

Bar Iron,

Boiler Tubes,

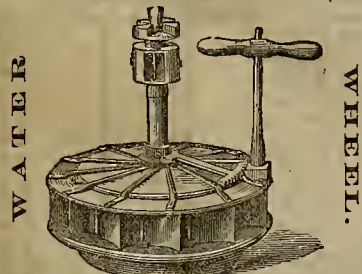
Anvils,

Cast Steel, Etc.,

Which they offer to the trade on liberal terms. 13v12-3m

LEFFEL'S

American Double Turbine.

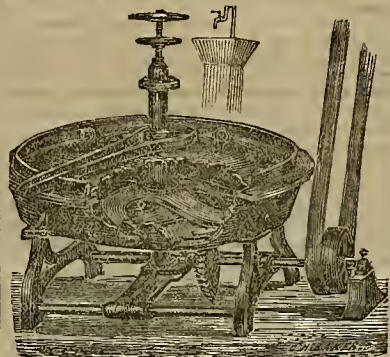


THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given universal satisfaction wherever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in mill-races or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to
KNAPP & GRANT,
—ALSO—
San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by
KNAPP & GRANT,
San Francisco,
12v12-3m

BAUX & GUIDO'S Separator and Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1864, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIDO'S Pan, are the following: The trifling cost for attendance; its small cost; its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping, as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the trifling power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jefferson Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Crall's Gravel Cement Works, Nevada county; Waltham's Chlorination Works, Nevada, Cal.; Gold Hill Quartz Mill, Washoe. Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hough & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address
J. B. BAUX,
Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 4v5-6d7

Cotton-Filled Gum Belting,

3, 4, and 5-Ply,

FROM 4 TO 22-INCH,

IN LIBERAL SUPPLY.

FOR SALE BY

GILLIG, MOTT & CO.,

Corner C and Taylor streets,

VIRGINIA, NEVADA.

—AND—

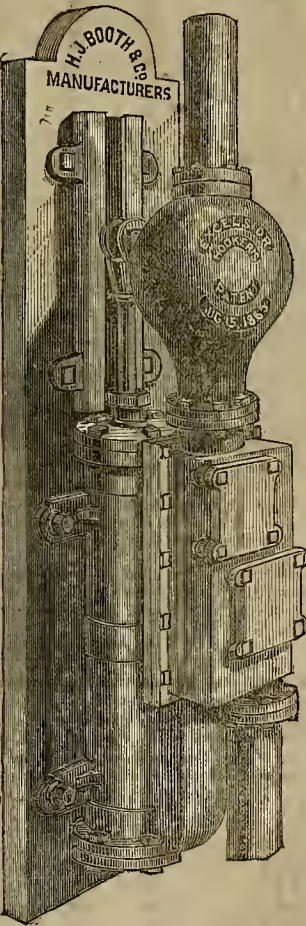
Nos. 148 AND 150 J STREET,

19v12 11 SACRAMENTO, CALIFORNIA.

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 19v12

EXCELSIOR PUMP!



THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufacturers, farmers or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITTON & CO.,

General Agents,

120 Front street, San Francisco.

2v13-3m

See Ad for Price List.

STODDARD'S

CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by

S. B. STODDARD,

Corner of Battery and Pacific streets.

June 23, 1866.

Union Amalgamator.

This Valuable Invention

ITS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by
STRONG & CO.,
San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention.
15v12-3m

BRUCKNER'S

Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALENBURG,

19v12

416 Market street, San Francisco.



FLORENCE

SEWING MACHINES!

COPY OF THE REPORT OF THE COMMITTEE OF AWARDS AT THE FAIR OF THE

AMERICAN INSTITUTE,

New York, 1865,

—TO TRY—

Florence Sewing Machine Company,

FOR THE BEST FAMILY SEWING MACHINE.

HIGHEST PREMIUM—GOLD MEDAL!

REASONS:

- 1st.—Its simplicity and great range of work.
- 2d.—The Reversible Feed Motion.
- 3d.—The perfect finish and substantial manner in which the machine is made.
- 4th.—The rapidity of its working and the quality of the work done.
- 5th.—The Self-adjusting Tension.

The "FLORENCE" was awarded the First and Highest Premium at the State Fair of California, the only Fair on the Pacific Coast at which any two double-thread Sewing Machines were exhibited in competition in 1865.

The "FLORENCE" received the only premium awarded by the Mechanics' Institute of San Francisco, in 1864 and 1865, to any Sewing Machine, Sewing Machine Company, or Agent. The claim of a competitor to a medal is without any foundation whatever.

Wherever the "FLORENCE" has been brought in competition with other Sewing Machines, it has always been declared the best. It is the most simple, the most substantial, the most efficient, and its use is easily learned. Every Machine sold is guaranteed in the full sense of the word.

Send for Circulars and Samples of Work.

SAMUEL HILL, General Agent,

20v12-14w 111 Montgomery street, San Francisco.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by
THOMAS H. SELBY & CO.,
22v12-3m Nos. 116 and 118 California street

Pacific Forge Company.

FORGING AND IRON WORK.

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A FENNY DOG STORY.—When the war in Italy commenced, the Zouaves embarked for Genoa; but as they were going on board the ship, they saw a formal order forbidding the entrance of dogs upon the vessel. As they were very much attached to their dogs, they were stricken with grief. It was not very easy to deceive the sharp lookout kept by the intendant, for every soldier advanced along the narrow gangway, one by one, as their names were called. Necessity is the mother of invention. The drummers unscrewed their drums, and the best dogs of the regiment were concealed in the drums which were screwed up again.

When regiments embark no music is played, but on this occasion the Colonel determined there should be music. He ordered the trumpets and drums to take the head of the column, and play a lively tune. The faces of the drummers—every one of whom had a dog in his drum—may be conceived! The trumpets sounded; the drums were silent. The Colonel got angry, and howled to know why the drums did not beat. There was but one thing to do and that was to beat. The moment the drums began to beat innumerable dogs began to bay and howl, to the astonishment of everybody but the Zouaves. Everybody looked right, left, backward and forward—no sign of a dog anywhere; and yet the more the drums beat, the more the dogs howled. At last a spaniel fell out of a drum, rolled over and over on the ground, got up and took to his heels, howling louder than ever. Roars of laughter greeted this explanation of the mysterious howls.

The intendants ordered the drummers to advance on board, one by one, and each to roll the drum as he came. If a bark was heard, the drum was unscrewed, and the dog put ashore. Only one dog got on board; and that was Taunton, who kept quiet through all the rolling. It need not be said that the third Zouaves adore Taunton. He made his entry into Paris at their head a few days since.—*Paris Letter.*

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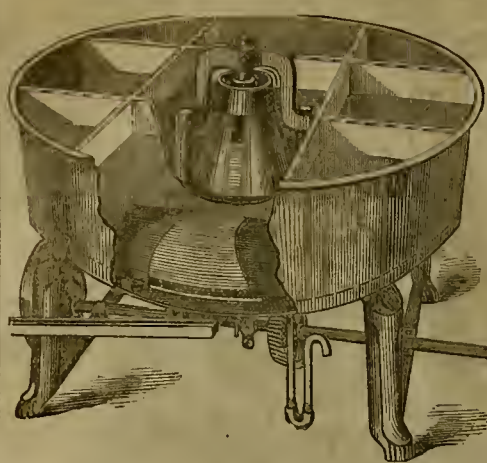
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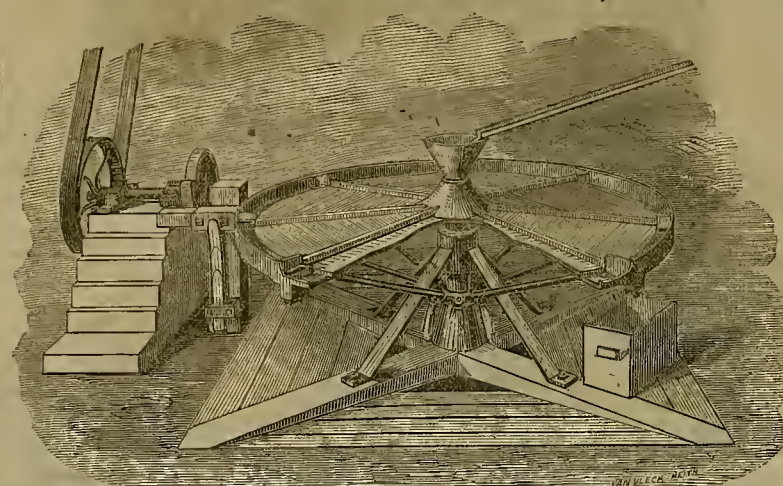
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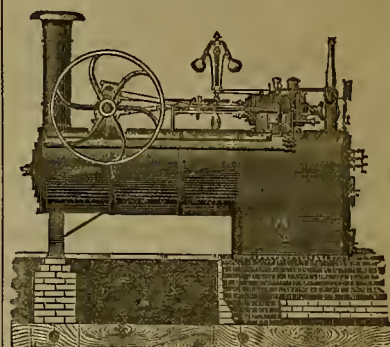
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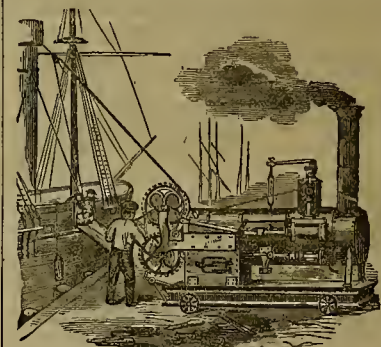
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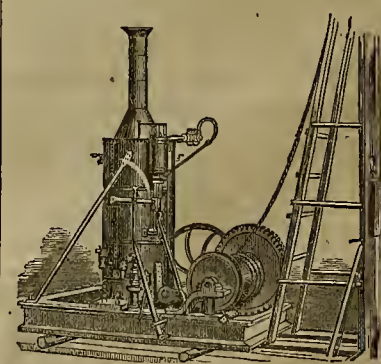
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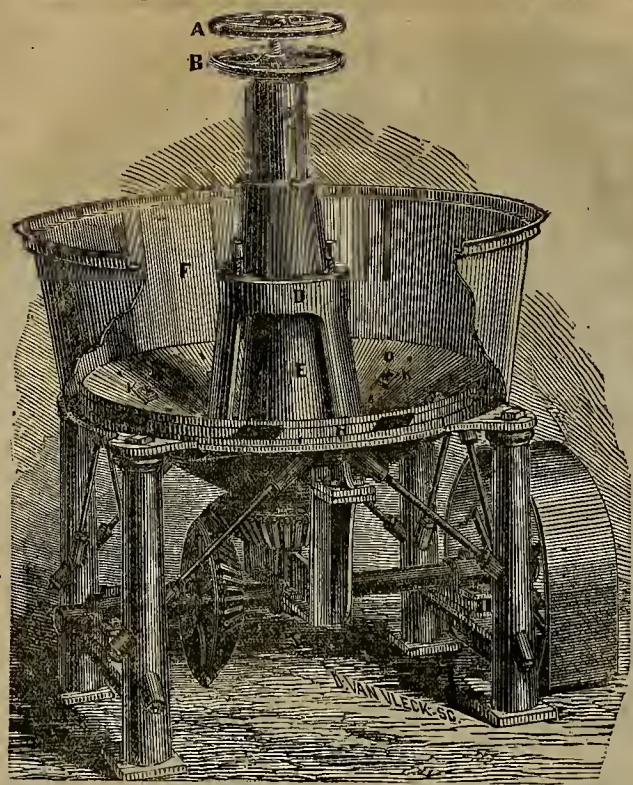
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VOLUME XIII.
Number 5.

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CITY IMPROVEMENTS.—So much is being done in different parts of San Francisco to improve and beautify the city, that one hardly knows where to begin to enumerate them, and anything like a full reference would require columns, even in the daily papers. Langley will not lack for material in this respect to fill an important department in his next Directory. On every hand we see going up substantial and ornamental structures, which speak volumes for the growth, prosperity, and permanency of the Golden City. Streets are being widened, substantially paved, and more properly graded in every direction. At no time in our past history has there been a greater activity in such enterprises than is now to be seen. Of course, the more permanent improvements are being made at and near the business centre of the city. This point, at least so far as the banking business is concerned, is now on California, between Montgomery and Sansome streets. There we have first the splendid structure of the Bank of California, now beginning to develop the beauty and grandeur of its proportions, and which will cost a quarter of a million of dollars. Next we may notice the structure of the California Building and Loan Society, which association has accomplished untold good for the poorer classes of our citizens in enabling them to erect homes for themselves. The old brick building adjoining has recently been purchased for \$65,000, by the Firemen's Fund Insurance Company, and that corner will soon assume an ornamental appearance. The Bank of British Columbia, on the opposite corner, paid about the same sum for their premises. The Pacific Insurance Company are erecting an expensive building on the corner of Leidesdorff and California streets. On the site of White's livery stable, opposite, the erection of another fine structure has been commenced, for the Merchants' and Brokers' Exchange, which will extend one hundred and twenty feet front on California street, by one hundred and thirty-seven deep. The building and lot will cost \$300,000. All these improvements are going on within the distance of a stone's throw, and may give some idea to distant readers of what is being done in the way of building improvements in San Francisco.

Colored children are not admitted to the public schools of Brooklyn.

A CALIFORNIA PATENT BALING PRESS.

We give, herewith, an illustration of a cheap and apparently effective baling press, invented by Erastus M. Day and John P. Noel, of Lower Lake, California, patented February 20, 1866, and first illustrated in the *American Artisan*, of New York, in May last.

As the season is now at hand when our farmers and others are making arrangements to prepare their hay crops for shipment, we have thought it might be of service to call their attention to this California invention, which, as will be seen from the engraving, is exceedingly simple, compact and portable. By reference to figure 1, it will be perceived that the

which keep the pawls up to their work. It is a eum which disengages the pawls from the ratchet, when the follower is to be pushed back to make room for a charge of the material to be baled. *b* and *d* are eccentrics, fixed on the rock-shaft, *a*. *G* is a hand-lever, also fixed on the rock-shaft, to work it. On each of the eccentrics, *b* and *d*, are two pawls, one being longer than the other by half the length of a tooth of the ratchet, in order that the ratchet may be moved the length of half a tooth at a time; this expedient is preferred to making the ratchet teeth smaller, and therefore liable to wear out sooner. As the eccentric, *d*, is opposite the eccentric, *b*, on the rock-shaft, it will push its pawls forward while *b*

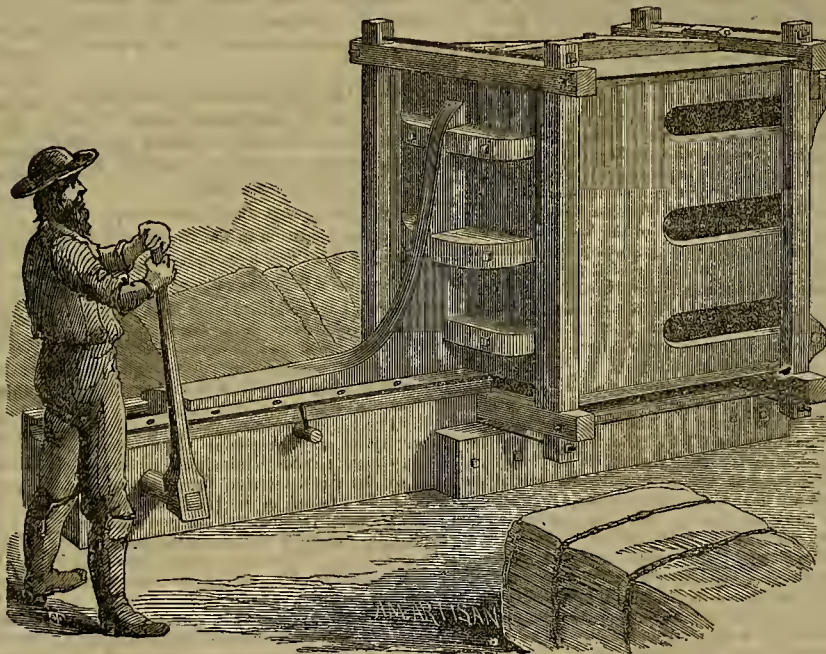


Fig. 2



movement of the follower which presses the material is horizontal. The door through which the bale is taken out is at the further end, opposite the follower, so that the pressure is exerted toward the door; and when the bale is corded, the door is opened, and the follower is worked farther forward, and pushes out the bale. The material to be baled is put in at the top; a lid, with proper fastenings, being fitted at the top. The whole arrangement is convenient; the height at the top being the height of a bale added to the height of the bed-frame of the machine.

The means by which the power is applied are shown in Fig. 2. *A A* is part of the bed-frame furthest from the pressing box. *F* is part of a ratchet-bar which is fixed upon and gives motion to the follower. *f f* are pawls which catch into the ratchet. *r r* are springs

draws its pawls backward; and, on the other side, *b* will push its pawls while *d* draws its pawls back; and when the lever is not worked, one of the pawls of each eccentric, or two pawls, will hold. Thus, by moving the hand-lever either way, to the proper extent of its movement, the follower is moved half a tooth; another pawl, on the other eccentric, then catches into the ratchet; the lever is then thrown the other way, pushing the ratchet half a tooth further; and so on until the bale is sufficiently compressed. The bale is then corded, the exit door opened, by knocking away the latches, and the bale is pushed out by further working the ratchet.

For further information, address, by letter, H. Winchester and E. M. Day, Lower Lake, California.

FROM ARIZONA.—We have had the pleasure of a call from Mr. JOHN A. MAHON, one of the pioneers of Arizona, who has been engaged in mining in that part of the country for eleven years. He has placed us in possession of a large mass of information with regard to the present condition and future prospects of mining there, which we shall lay before our readers next week.

THE BREAST-PLATE REVIVED.—A letter from Italy to an English paper says that breast-plates are being revived as in the glorious times of the knights of the Round Table and the Plantagenets, and that the director of the Genoa penitentiary has succeeded in devising a breast-plate for soldiers, which scarcely weighs three English pounds. After repeated experiments, practiced on it with heavy cavalry pistols at five paces, and lances, bayonets and swords, it has been discovered to be utterly impenetrable both to bullets and thrusts. The most striking peculiarity of this breast-plate, which can in no way impede the movements of a soldier, is that not the slightest atom of metallic matter enters its composition.—*Eastern Exchange*.

ALUMINUM ARMOR.—A trial has just been made at Florence of a cuirass in aluminum, which is as light as an ordinary waistcoat, nearly as flexible, and capable of turning a musket ball fired at the distance of 38 paces, and of resisting a bayonet thrust from the heaviest hand. Each cuirass costs only 25 frs. Two regiments are, it is said, to be immediately provided with them.—*London Mining Journal*.

Both the above paragraphs, undoubtedly refer to the same thing, although one contradicts the other. The metal aluminum has been observed, alloyed with iron in Indian steel, and it has been said that the excellent qualities of that steel are due to the aluminum contained in it. Experiments made several years ago have shown that iron, combined with aluminum, was greatly increased in tenacity. Both theory and experience indicate the softening and strengthening influence of all alkaline metals, from aluminum to potassium; but in large operations, and in the reduction of oxides, the great difficulty has been, that in reducing them it has been found impracticable to obtain them free from silica, which not only paralyzes the good effect which might be otherwise obtained from the alloy, but often renders the alkaline metals disadvantageous to the ductility and strength of the metals with which they are combined. It has long been supposed that if metals could be reduced in the presence of alkaline substances, from sulphurets, phosphates or chlorides, there would be a possibility of obtaining alloys free from silica, and therefore possessing a great degree of strength and toughness. It is possible that the Italian experimenters may have made some new discoveries in this direction. An alloy of copper and aluminum of considerable toughness is even now well known to metallurgists.

SAILOR QUARTZ LEDGE.—Among the recent, and prospectively rich developments in quartz, we hear of the Sailor Ledge, near Downieville, Sierra county, as follows:—

Energetic prospecting has opened to view a vein of quartz rich in various sulphurets, tellurium and free gold. The width of the vein is from ten to twelve inches, incased on the west by a wall of serpentine, and on the east by talcose slate, gradually changing to silicious and clay slates. The hanging wall is strongly marked with clay seams, which are all held as infallible evidences of a true fissure. The exploration of the ledge has been by a level run directly on the vein. The ore is now being tested at the Montpelier Mill, and soon the results will be known. The only seeming difficulty possible is in the extent; for the vein, as now exposed, is of the richest quartz. The situation of this ledge is most propitious; wood and water in inexhaustible quantities are near at hand. The proprietors are confident of success, and so far their hopes seem to be well founded.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Notes on the Chief Gold Districts Throughout the World.

BY PROFESSOR ROWLANDSON, F. G. S. L.

[Continued from page 60.]

ITALY.

It was not intended to have made further allusion to this portion of Europe, but have let it pass with the notice previously given of the Norian Alps, which include a portion of the northeastern part of the Italian peninsula at the point where the Apennines intermix with the branches of the Alps already named. As, however, I observed in a recent number (November 18th, 1865) of the *London Mining Journal*, a satisfactory report of the working of gold mines at Vallanzasca, Val Toppa and Val Antigoria, it may not be out of place to make allusion to the circumstances that it was not long ago stated that there had been found in the gneiss of some part of the Apennines organic remains, which indicated a Jurassic or Cretaceous age.* If this statement is correct, it would go far towards establishing the truth of the theory which I have set forth respecting the age of gold-bearing rocks.

The same number of the same journal also contains a report respecting some copper mines in Tuscany. The circumstance is alluded to for the purpose of drawing attention to the great similarity which exists between this part of Italy and some parts of California; thus, a section drawn from the Noric Alps to Sessa, in the Florentine in Italy, and another from Mariposa across Calaveras, Amador counties, etc., to Clear Lake, in each case the line will pass through an auriferous to a copper region, terminating in both instances in a boracic acid-producing district. It is true, that, in the latter instance, the lagoons of Tuscany yield boracic acid only in mechanical association with a few foreign substances, whilst at Clear Lake, it is, as at the Tineal lakes of Tibet, found in a chemical combination with soda, in the form of bi-borate of soda (Borax), a variation for which it would not be difficult to assign a probable cause. All the three boracic districts named probably belong to tertiary formations.

The analogy may be carried a step farther, as both in Italy and California the districts alluded to are accompanied in places by quicksilver ore. The last named fact is sufficiently interesting and allied to the subject under consideration, to merit a lengthy quotation of a paper by Olier von Hauer, in the *Proceedings Imp. Geolog. Institut, Vienna*, and translated in the *Quarterly Journal of the London Geological Society*.

ON A QUICKSILVER DEPOSIT NEAR AIRDALE.

If my recollection is not at fault, a few years ago mercury was found under nearly similar circumstances at the foot of the Pyrenees, near Toulouse. I call attention to this fact, for, notwithstanding the statement of Crimm about the cinnabar mines at Idria being found in sub-carboniferous rocks, not only is the assertion unsupported, but it is opposed to the well-known geological surroundings of that vicinity. Lignite beds and shales of Cretaceous and Miocene ages have most probably been mistaken for the true carboniferous formation.

In a communication in the same journals, Dr. M. Hornes described some gasteropods from the Alpine Trias, collected at Unterpetzen, near Sebarzenbach, at Mount Obir, northwest of Eisserkappel, in Lower Carinthia, a series from Esino, in the Val Pelaggia, on the eastern border of the Lake of Como, and some fossils from the Hallstadt strata, found at Sandling and at Seltsechen, near Ansee, in Styria.

The Esino fossils were found in a dark-gray or black dolomitic limestone, in the detrital accumulations (Schulbalden), on the northern slope of the Val Pelaggia—the limestone

being intersected by veins of white calcareous spar, yielding a slight bituminous smell when struck with a hammer.

The fossils found indicate that the Hallstadt and the St. Cassian strata are closely related, and that in a paleontological point of view, the dolomitic limestones of Esino, Hale (Tyrol), Venterpetzen, etc., are members of the St. Cassian series. In a prior paper (No. 5, June 24th, 1865) will be found some remarks at greater length respecting the peculiarities of the St. Cassian and Hallstadt beds, and probably may be referred to hereafter.

The *Bulletin of the Geological Society of France* contains a communication on the sedimentary formations of Lombardy, and on the structures of the southern flanks of the Alps, from the Tyrol to the vicinity of the Lago Maggiore, in which the author, M. Ombroni, describes the following formations in descending order: 1, Recent deposits; 2, Etratic formations; 3, Tertiary; 4, Cretaceous deposits; 5, Jurassic; 6, St. Cassian (Cassian) groups; 7, Triassic; 8, Permian; 9, Carboniferous; 10, Crystalline formations. Aside from the last mentioned, the only two groups belonging to the paleozoic series are 8 and 9, both of which are above the Silurian series. Not having the *Bulletin* to refer to, I cannot say to what extent the Permian and Carboniferous cover the area alluded to, nor the relation which they bear to the golden placers and auriferous veins of Northern Italy; the general geological feature of that part of Europe, so far as it has been well worked out, countenance the strong probability that the paleozoic portions are of limited extent, and sparsely distributed, so that the chances in the absence of positive evidence either way are more favorable to gold-bearing veins in Northern Italy, being found in ascendancy in place of paleozoic strata.

In connection with this subject it may be well to make a brief statement in reference to the anthraxiferous formations of the Alps, whose position has caused no small amount of geological controversy. M. Scipion Gras, comparing them to the Verrucano of Tuscany, and from the fact that true carboniferous fossils having been found in the Verrucano, he infers that the thraxiferous beds of the Alps belong to the same carboniferous zone. The age of these beds has occupied the attention of very many eminent geologists, especially within the last ten years. In the course of a communication from M. A. Sismonda to M. Elie de Beaumont, the former gave an account of the fossils from the Col des Encombres (Savoy), and the Col de la Madelaine, in the valley of the Stura (Piedmont), on the route leading from St. Michael-Maurienne to the Tarentaise, from which Sismonda confirms the opinion of Elie de Beaumont, that the anthraxiferous formation of the Central Alps cannot be referred to a more remote period than the Lias (Jurassic). The fossils are described as occurring principally at the junction of the dark schistose crystalline limestone with the calcareous beds called *calcaire de Villette*, and M. Sismonda concludes that the anthraxiferous beds of the Alps are nearer than those of Jans in Tuscany, the latter being below the Verrucano, which he identifies with the infra liassic conglomerate of Valorsale and Ugine, whilst in the Alps the anthraxiferous beds are above the conglomerate. The Jans fossils are decidedly paleozoic; the only resemblance between the two formations from which a comparison has been drawn consisting in their flora, which, as is well known to geologists, forms a much more uncertain index of age than when the latter is inferred from animal remains.

In all the explorations connected with the geology of Northern Italy and the Alps, with the exception of the Jans beds of Tuscany, no reliable data respecting the existence of paleozoic strata appears, notwithstanding the district has been thoroughly examined by numerous and experienced geologists, whilst the Jurassic appears to occupy large areas under conditions apparently greatly similar to what is found in California. The anomalous superior Triassic or inferior Jurassic beds, known as the Hallstadt and St. Cassian series, appear also to be widely diffused, and, in many respects, greatly resemble the conditions presented by the metalliferous region connected with the Sierra Nevada. Some general observations on these latter points will, however, be reserved, until notice has been taken of the auriferous districts found in Hungary and Transylvania.

Another striking point of resemblance between the geological features of Northern Italy and California consists in the character and association of the igneous and metamorphosed igneous rocks found in the two countries, particularly those related to the augite and hornblende series, through all their changes into diatase, bronzite, serpentine, gabbro, etc., the last term being derived from the city so called, around which a mixture of diatase and serpentine (Gabbro) covers a considerable area. Similar phenomena are to be found

within the limits of the city of San Francisco, accompanied, also, he it remembered, by mercury, and possibly gold. This subject will, however, form a separate paper after this series is finished, when the question of the association of mineral, and especially auriferous veins, with hornblende and its cognate rocks, will be more fully entered upon. A general resume, however, of the geological features of the extensive European auriferous district connected with the Alpine Trias and the igneous rocks and serpentines associated therewith, will be given after detailing some facts relating to the rocks associated with gold in Hungary and Transylvania.

[To be Continued.]

Letter from Dr. C. T. Jackson—Correction.

EDITORS PRESS: On reading your paper of the 2d ult., I see that you have copied a very erroneous statement from some of our newspapers, relating to two letters of mine written to the Academy of Sciences of France, during my visit to California and Nevada. I did not notice this article when it appeared in the common newspapers, nor then correct its errors, but when it has been copied into a paper of such high scientific standing as the *MINING AND SCIENTIFIC PRESS*, I feel that it ought to be corrected, since it might lead the good people of Austin to imagine that I must be not only ignorant of the situation of their mines, but also of mineralogy, if they should believe I ever made such statements. In my letters I stated that the silver ores of Austin were sulphuret of silver, and red antimonial sulphuret of silver chiefly, which, on decomposition, by agency of air, water, and the saline matters in the soil, produced sulphate of silver, chlorides, iodides and bromides of silver in the surface rocks, and that if specimens of these ores were heated to full redness in a forge fire, they became quickly covered with globules of metallic silver.

I stated that the high cost of reduction of the silver from the Austin ores was due to the fact that the ores had to be roasted previous to amalgamation, and that the fuel had to be brought from distant mountains.

I do not know what the Austin people will think of the allegation in the article you have copied, that the "ores have to be brought from the mountains a long way off," when the Silver Mountain's Lander Mill, Union Mill, and Central Mill, are all three in the town.

The produce of the ores is stated correctly—they average nearly \$200 per ton, and there are picked samples that will run as high as \$1,300 per ton.

My two letters addressed to the perpetual Secretary of the Academy of Sciences of France were correctly translated by him and read to the Academy, and most cordially accepted and printed in the *Comptes Rendus* of November and December, 1865, and have been copied into most of the scientific journals of the continent of Europe. One of the letters is on the mineral resources of Nevada, and the other on those of California.

I have read several papers on these subjects before the Boston Society of Natural History, and the American Academy of Arts and Sciences of Boston, abstracts of which communications have been printed in the proceedings of these Societies, with my supervision of the proof-sheets.

I have still more elaborate work to perform, and it is now in progress of preparation, of minute detailed descriptions of the mines of Nevada and of California which I have examined. I was in hopes that some of this information would have been called for by persons desirous of investing in the mines but there has been no demand for any information, and worthless mines sell just as well, if not better, than good ones, and the worthless ones costing little, do just as well for foot-halls to stock-jobbers.

This shameful treatment of our mining interests calls loudly for a remedy. It is the ruin of legitimate mining, and ought to be stopped by the strong hand of the laws of the country.

Mining will ultimately be understood to be one of the great interests of this country, and should not be regarded as a mere gambling business. May the day soon come!

Your obedient servant,
Boston, July 3, 1866. CHAS. T. JACKSON.

GOLD SHIPMENT.—The shipment to New York by the last steamer was... \$1,162,307
Total shipment since January 1,

1866..... 27,545,923
Corresponding period for 1865... 25,878,207

Increase this year..... \$1,677,715

Linear vs. Square Claims.

We have received the following communication from a correspondent at Marysville, with regard to the second section of the New Federal Mining Law.

EDITORS PRESS: In your issue of the 14th inst., in speaking of the objections urged by the Marysville *Appeal* against the second section of the Senate Mining Bill, you say, not to allow the miner to follow the dip of his vein under the ground of his neighbor, would he a system or law that no one with any experience in mining would think to approve of, and that on the contrary you look upon this section as one of the most important provisions of the bill, and that without it, no mines can be worked effectually.

I find already, that the Nevada *Gazette* is not entirely of your opinion, for alluding to the objections of the *Appeal*, it says:

"The pay chimneys, at a certain depth, will leave the company's ground, but while the company would have a right to follow the ledge indefinitely, they would not, either by the present mining laws or by the new mining bill, have the right to follow the chimney when its dip took it off their portion of the ground." But the *Gazette* also says, that in a communication on the subject to the *Appeal*, I was confounding the dip of a vein in its downward course, with the inclination of a pay chimney, or did perhaps not clearly express my meaning on a subject that only can be well explained by the use of a diagram. Such a diagram I herewith forward to you, hoping that it will help you to better understand my own and the *Appeal's* objections; as to the dip, or the meaning of it, the only question in dispute, it would be more easily understood by everybody, if the incline shaft on my diagram was sunk along one of the pay chimneys in a northeasterly direction, instead of being sunk in a straight easterly one.

Being myself of foreign birth, I had a slender confidence in my ability to define the real meaning of the word, and therefore consulted a native American friend at my elbow, and he tells me that in mining, "To dip means to sink or to incline as a stratum of rock," and this being the case, I hope the slope or inclination on my diagram will sufficiently explain the downward course of my pay chimneys, and also conclusively show that the provision in section 2d, "although it should enter an adjoining claim, cannot fail to create conflict and confusion."

[Our correspondent here goes into a lengthy description of the diagram which he sends us; which we do not insert from the fact that we have no engraving of the same, upon which the reader can follow his remarks.]

What a large field for argument would that section 2 not offer to a smart lawyer!

It is true, that under this new bill rights acquired under the rules and regulations of our present laws would be respected, but why not share rights to be acquired in future at once in such a way as to prevent all controversy, and say, for instance, that dips, angles and variations may be followed up as long as they do not enter adjoining lands already claimed, thus avoiding, at least as much as possible, confusion and endless litigation.

The difficulty of making myself better understood, simply arises from the fact, that but few miners as yet seem willing to admit of this oblique theory. There are pay chimneys, the strike or plane of which are of 50 as well as of 500 feet in length. You may cross them in all directions nearly the same; if but of fifty feet, you will by your incline shaft easily and soon determine its length; if 500, it will very naturally require some time before you can ascertain it and see whether your ledge or chimney is a horizontal or an oblique one; if found to be oblique, you will know that there is no reason for despair, for you then also know that the works for reaching, its extension may be easily and with perfect confidence planned in advance.

To the fact that these chimneys are mostly of larger dimensions, or follow each other so near (often separated from each other only by twenty feet, more or less, of country rock), that in many cases, no serious anxiety has been felt for losing their extension—to this fact, I say, may be ascribed the cause, that so far, so little attention has been paid to their oblique chimneys; however, it can certainly not be denied, that many a good claim has been abandoned for ignoring their existence.

The square claim location, with arbitrary

* The celebrated Carrara marble quarries belong to the chalk series as well, as a large part of the Apennines and other portions of the Italian peninsula.

limits on the surface can, so it seems to me, scarcely be improved.
M.
Marysville, July 24th, 1866.

REMARKS.—Since the above letter was written, the bill referred to has become a law, and all controversy as to the effect of any of its provisions, before giving them a practical trial, would seem to be useless. Still we would insist upon our previously-expressed opinion, and furthermore, believe that nineteen-twentieths of all the miners on the Pacific coast agree with us, that the system of location following the direction of the vein, with its dips and angles, is preferable to any mode which involves the square claim location.

We do not see how our correspondent can gain anything for his "chimney" theory from square claims, as his chimneys, most certainly, at times, run beyond his "fixed lines" into his neighbor's ground. With regard to what may appear upon the surface to be parallel veins, but which in depth run into a common lode, as is probably the case with the Comstock, at Washoe, the new law allows the first locator to make his claims as wide as he thinks best on the surface; and it will be his own fault if he fails to make them wide enough to cover all the parallel out-croppings of his main lode below. There is very little difficulty to be apprehended on this score, and as there must be a limit, longitudinally, we do not object to arbitrary lines, especially when we take into account the difficulty of determining what may constitute a chimney.

We can see any amount of litigation which might grow up were it left to jurors to decide what was or was not a chimney; when the decision of that question might increase or decrease the extent of a claim, by its greater or less inclination along the direction of the vein.

CARE OF THE BODY.—While riding on a locomotive recently, and talking with the engineer, as I had the privilege of doing, I could not but think how much wiser men were about iron and steel machinery, than they were about fleshy and osseous machines. The relation of the pump to the capacity of the boiler; the relations of the size of the flues; the relation of the cylinder, or of the steam generated, to the work to be done—all these things were in the engineer's mind. He was continuously watching every part, and opening and shutting valves on every side so as to keep every part in its proper condition. The stoker, or fireman, was applying or withholding food, so as to keep the engine in just that state in which it would work the best, according to whether we were running up-grade, or down-grade, or on level ground, and according to the number and weight of the cars being drawn, for we were drawing a long and ponderous train.

Now, how many are there who watch their furnace, to see that they get in neither too much nor too little fuel? Men shovel in food without any regard to what it is going to do! If it is the Sabbath day, when they are quiet, when their stomachs are not in a condition to digest so much food as other days, they eat a double portion. If it is a day when they are to undergo severe taxation and work, and when they can least afford to go without food, oftentimes they become anxious, and neglect to eat because they become too anxious. As a general rule, when the body needs the basis of food less than at any other time, they eat the most, and when it needs more than at any other time, they eat the least. Our food is a means to an end. It is simply the fuel with which we are to raise steam for carrying on the purposes of life.—[Exchange.]

CAUSED BY A FINE CRACKER.—The late disastrous fire at Portland was caused by a fire-cracker fired by a boy on the Fourth of July. It was thrown into some shavings, the burning of which kindled that terrible conflagration, which raged for twenty-four hours, sweeping over 200 acres of ground, destroying 1,500 buildings, and rendering houseless about 9,000 persons.

THE LIBRARY OF THE MECHANICS' INSTITUTE has been removed from the Institute Building, on California street, to 636 Market street, between Montgomery and Kearny, where it will remain until the completion of the new building of the Institute now being erected.

Two children in Chicago have been poisoned by putting a card photograph to their mouths. One died.

Mechanical.

A NOVEL PUMPING APPARATUS.—THE *Yreka Journal* says that J. C. Carroll, of Scott Valley, has perfected a model of machinery for a new style of motive power from water. It consists of pipe laid from a ditch, stream or reservoir, similar to hydraulics, in the end of which are two cylinders, with a branch pipe to each. In the branch pipes are valves, which are so arranged as to allow the water to rush into each cylinder alternately, driving down plungers attached to a walking-beam above. As each plunger reaches the bottom of the cylinder the lower valve opens and lets the water out, while at the same time the upper valve closes, thus shutting the water off into the other cylinder.

THE IRON HORSE, with his tireless strength, its pulch of vapor, and its heart of flame, is a glorious exponent of the creative capacity of the human mind; and the metallic nerves, through which intelligence courses over a continent, prove, by every flash of thought which traverses them, that man possesses one attribute essentially godlike, the power to annihilate space and time. But vast and important as have been the results of making steam and lightning the common carriers and messengers of the world, they are both, after all, but mere subsidizing agents. The one is but a great motor; its usefulness consists, mainly, in conveying substantial benefits, with speed and certainty, to the fields in which they are to operate; while the other is simply the bearer of blessings, not their originator.

MECHANICAL EFFECTS OF HEATED AIR.—M. Babinet has communicated to the Paris Academy of Sciences an account of experiments by M. Mouchot, Professor of Mathematics at Alençon, on the mechanical effects produced by confined air heated by the rays of the sun. In these experiments, M. Mouchot employed a cylindrical vessel of this silver, blackened on the outside, and enclosed within two cylinders of glass, placed one inside the other. The office of the glass cylinders, of course, was to prevent the heat which might pass through them to the blackened silver cylinder being radiated back again,—glass, while affording a free passage to the direct rays of the sun, being practically opaque to radiant heat. The silver cylinder was half filled with water, and an air-tight cover was then fitted on it; a tube, fitted with a stop-cock, passing vertically through this cover to very nearly the bottom of the vessel. Thus arranged, the apparatus was placed in the sun, whereupon the air in the upper part of the vessel speedily became heated sufficiently to cause it to exert so much pressure on the water under it, that the latter, on the stop-cock in the tube passing through the cover of the vessel being opened, escaped in a large jet more than ten metres high. This very remarkable result led M. Mouchot to construct an apparatus on the same plan which yielded a continuous jet of water as long as the sun was shining on it. M. Babinet is of opinion that machines on this principle might be found useful for raising water on the great scale in tropical countries.—*Mechanics' Magazine*.

CLAY which when not compressed had a power of conducting heat equal to 26, had when compressed with 7,500 pounds per inch, a power equal to 33; and the conducting power of a mixture of sand and clay in equal quantities, rises from 36 to 378, by an increase of pressure from 4,300 pounds to 7,500 pounds per inch.

A BRASS made of sixty parts copper, thirty-eight parts zinc, and two parts iron, may be forged at a red heat, and will support a "breaking weight" of twenty-seven tons per square inch. This has been used with success for bolts in the fire-boxes of locomotives.

THE violence of the expansion of water when freezing is sufficient to cleave a globe of copper of such thickness as to require a force of 28,000 pounds to produce a like effect.

THE tenacity of cast copper is sufficient to support a weight of 19,000 pounds to the square inch, or rather more than half as much as good cast iron.

FROM Professor Airy's pendulum experiments at Harton Colliery, the mean specific gravity of the earth is found to be 5.566.

OVER two hundred mechanics and operatives are in constant attendance at the Cincinnati School of Design.

Scientific Miscellany.

A New Kind of Galvanic Battery.

M. Bultinck, of Ostend, has communicated to the Academy of Sciences a note on the use of magnesium instead of zinc, as the positive element of voltaic batteries. In order to compare the electro-motive force of magnesium with that of zinc, he employed two pairs of wires, one pair consisting of a wire of copper and one of zinc, and the other pair of a wire of silver and one of magnesium. On plunging the first-mentioned pair of wires into distilled water, having first connected them with a multiplying galvanometer, the needle of the galvanometer, at the moment of the immersion of the wires, moved thirty degrees, and after the immersion had lasted five minutes still marked ten degrees. On similarly treating the silver and magnesium pair of wires, which were exactly of the same dimensions as the copper and zinc pair, at the moment of immersion the needle of the galvanometer deviated ninety degrees, and five minutes after immersion it remained stationary at twenty-eight degrees. Having thus found the electromotive force of a silver and magnesium couple to be three times that of a copper and zinc couple, M. Bultinck became desirous to construct a large battery with magnesium as the positive element, but not being able, for the moment, to obtain magnesium in any other form than that of thin wire, he had to be content with making a "galvanic chain," of the kind associated with the name of M. Pulvermacher. Having constructed such a chain of silver and magnesium, he found that when simply moistened with pure water it would produce all the effects the production of which by an ordinary Pulvermacher's chain requires that the chain be moistened with either a saline or an acid solution. We knew previously that magnesium possessed greater electromotive force than any other known metal capable of being obtained in quantity; the new fact brought to light by M. Bultinck, is that a battery in which magnesium was the positive element would not need an acid to excite it, but could be excited by water only.

THE HEART.—The beating of the heart and the drawing of the breath proceed in a daily cycle of variations, very nearly as follows: From seven to eight in the evening the pulse and breathing begin to go slow, and continue to do so until about two o'clock A. M., when both reach their minimum of slowness. From that time to daylight a slight increase is noticed. Between daylight and sunrise the pulsation is increased about ten beats a minute. At breakfast, and especially during the meal, the pulse increases rapidly, until the second hour after dinner, when the maximum speed is obtained. From that hour it begins to decline, and losing by the dinner hour twelve and a half, ten or fifteen pulsations per minute. After dinner the rate rises again, and reaches the highest point on the second or third hours. Then comes a new increase until tea time, after which another increase, and then a final decrease, to the hour of seven or nine P. M.

THE NORTH POLE.—A couple of scientific gentlemen, who have recently visited the island of Spitzbergen, on a tour of scientific inspection, have found that a very considerable degree of heat is produced there by the continuous shining of the sun during the six months' day which prevails in that latitude. During this period a vegetation very luxurious and abundant springs up. Another singular fact noticed was the immense quantities of drift-wood which appears everywhere on the coast, and in the bays of the island. They also express the opinion, that the North Pole, only 600 miles distant, could be easily reached by an expedition which should leave that point in the early spring. Such an expedition will soon be fitted out to make the experiment.

THE famous German chemist, Mitscherlich, at the conclusion of a paper discussing his observations of the "spectral line" given by various non-metallic bodies, states that he believes all the so-called non-metallic elements to be compounds.

THE editor of the British Journal of Photography speaks in terms of high approval of the rectified wood spirit, or methylic alcohol, as a solvent for gun-cotton in making collodion, in place of the usual mixture of alcohol and ether. In these times of dear alcohol this is an important matter to photographers. This, it will be recollected, is the agent which the inventor of nitro-glycerine employed, in his New York experiments, to render that terribly dangerous explosive material harmless, while being transported from place to place, or on storage. He claims that when nitro-glycerine is mixed with methylic alcohol it cannot be exploded, while at the same time it can readily be separated from that liquid when wanted for use.

ALCOHOL.—Every writer on toxicology classes alcohol as a poison. A very small quantity of alcohol injected into the veins of man or beast, produces almost instant death. Healthy saliva reddens litmus paper, but after a small quantity of alcohol has been taken into the stomach, litmus paper touched to the tongue becomes green, showing that the saliva has become deteriorated. Alcohol mixed with the gastric juice produces a precipitate, and renders the fluid incapable of digesting animal or vegetable matter. Alcohol increases the pulsations of the heart. When that organ is under the influence of any kind of alcoholic spirit, it jumps away with increased violence to get rid of its enemy.

DR. CALVERT, in a late lecture, gives a recipe for cleaning silver articles without the troublesome and destructive use of polishing powders. The articles should be plunged for an hour in a solution made up of one gallon of water, one pound byp. sulphite of soda, eight ounces sal-ammoniac, and four ounces of aqua-ammonia or hartshorn.

THE green color of gold leaf, when seen by transmitted light, may be destroyed by subjecting the metal, extended on glass or mica, to heat, a temperature as low as that of boiling oil being sufficient if continued for several hours. When pressure is applied to such discolored gold by a convex piece of rock crystal of short radius, the green color of the transmitted ray reappears.

ORNAMENTAL GLASS.—A beautiful variety of ornamental glass has been devised by M. Pelouze: 250 parts of white sand, 100 of carbonate of soda, 50 of limestone, and 40 of bichromate of potash, are fused together. A glass is thus formed of a rich green color filled with golden spangles.

A VARIABLE star has been discovered in the constellation of the Northern Crown, and has been carefully observed at the United States Naval Observatory in Washington. The daily rate of decrease is about fourtenths of a magnitude, and it has changed from the second to about the eighth magnitude.

HEAT rarifies the air to such an extent that it can be made to occupy 5,500 times the space it did before.

WATER, when converted into steam, increases in bulk 18,000 times.

FORESTS ON THE WESTERN PRAIRIES.—It is said that in numerous localities on the prairie of Kansas, which are protected from the ravages of fire by neighboring cultivated fields, are being covered with a spontaneous growth of forest trees, chiefly oak and hickory, which in twenty years will become dense forests. The frequent fires which so often rage on the Western prairies are the sole preventive to the growth of trees, and an abundant supply of wood for all practical purposes.

THE TELEGRAPH, in Switzerland, is the property of the State. An office for the reception and transmission of dispatches is established in almost every village, and the charge is uniform—one franc, about twenty cents, for twenty-five words, or a little over one cent per word, irrespective of distance. The dispatches are printed, and the establishment, even at this low price, yields a large revenue to Government.

It is estimated that thirty tons of white paper are used daily in the manufacture of paper collars.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Friday, July 27.

AFTERNOON SESSION.

48 shs Ophir at 243@242½ per foot.
 12 shs Ophir at 252½ per foot, b 30.
 108 shs Ophir at 245@242½ per foot, s 3.
 8 shs Chollar-Potosi at 185@177 per foot.
 10 shs Chollar-Potosi at 175 per foot, s 30.
 3 shs Chollar-Potosi at 178 per foot, s 3.
 4 shs Gould & Curry at 705 per foot.
 1 sh Savage at 950 per foot, s 30.
 100 shs Overman at 36 per share, b 3.
 70 shs Overman at 35½@36 per share.
 26 shs Overman at 36@37 per share, h 10.
 40 shs Overman at 36@36½ per share, b 5.
 10 shs Overman at 37 per share, h 30.
 5 shs Overman at 38 per share, s 6.
 10 shs Overman at 36 per share, s 3.
 20 shs Sierra Nevada at 4 per share, s 3.
 45 shs Sierra Nevada at 4@4½ per sh.
 30 shs Sierra Nevada at 4 per share, s 5.
 10 shs Exchequer 3 per share.
 10 shs Imperial at 91 per share, s 3.
 Amount of sales.....\$ 20,105 00

Saturday, July 28.

60 shs Ophir at 230@235 per foot, s 30.
 84 shs Ophir at 237½@240 per foot.
 20 shs Chollar-Potosi at 180@185 per ft, b 30.
 6 shs Chollar-Potosi at 176 per foot, s 3.
 27 shs Chollar-Potosi at 176@180 per foot.
 1 sh Belcher at 135 per foot.
 5 shs Yellow Jacket at 535@575 per ft, s 3.
 2 shs Yellow Jacket at 530@585 per ft.
 2 shs Savage at 945 per foot.
 40 shs Sierra Nevada at 4½@4¼ per share.
 60 shs Exchequer at 3 per share, s 10.
 15 shs Overman at 38@36 per share, s 5.
 130 shs Overman at 39½@35 per share.
 10 shs Overman at 37½ per share, b 5.
 10 shs Overman at 38 per share, s 3.
 5 shs Overman at 37½ per share, s 3.
 6 shs Overman at 38½ per share, h 10.
 35 shs Overman at 39@41 per share, h 30.
 10 shs Overman at 39½@40 per foot, h 3.
 10 shs Confidence at 56@55 per share, h 10.
 8 shs Confidence at 54 per share.
 15 shs Confidence at 54 per share, s 3.
 5 shs Imperial at 91 per share.
 Amount of sales.....\$ 26,095 00

Monday, July 30.

12 shs Ophir at 231 per foot.
 12 shs Ophir at 230 per foot.
 12 shs Ophir at 230 per foot, s 30.
 12 shs Ophir at 235 per foot.
 12 shs Ophir at 240 per foot, b 30.
 12 shs Ophir at 235 per foot, s 3.
 24 shs Ophir at 238 per foot.
 1 sh Yellow Jacket at 530 per foot, s 3.
 2 shs Yellow Jacket at 530 per foot, s 3.
 1 sh Yellow Jacket at 530 per foot, s 10.
 4 shs Yellow Jacket at 510 per foot, h 30.
 3 shs Yellow Jacket at 505 per foot, s 3.
 3 shs Yellow Jacket at 505 per foot, h 30.
 2 shs Yellow Jacket at 502½ per foot, s 3.
 1 sh Yellow Jacket at 502½ per foot, h 3.
 8 shs Yellow Jacket at 500 per foot.
 1 shs Yellow Jacket at 595 per foot, s 30.
 5 shs Chollar-Potosi at 177½ per foot.
 5 shs Chollar-Potosi at 175 per foot, s 30.
 10 shs Chollar-Potosi at 180 per foot, h 30.
 5 shs Chollar-Potosi at 172½ per foot.
 5 shs Chollar-Potosi at 172½ per foot, b 30.
 5 shs Chollar-Potosi at 165 per foot.
 5 shs Chollar-Potosi at 170 per foot, b 30.
 1 sh Chollar-Potosi at 170 per foot, h 10.
 5 shs Chollar-Potosi at 165 per foot, s 3.
 10 shs Chollar-Potosi at 168 per foot.
 10 shs Chollar-Potosi at 163 per foot, b 5.
 5 shs Chollar-Potosi at 170 per foot, h 30.
 4 shs Crown Point at 875 per foot.
 4 shs Crown Point at 900 per foot, b 30.
 2 shs Belcher at 130 per foot.
 2 shs Savage at 950 per foot, h 3.
 10 shs Overman at 39 per share.
 10 shs Overman at 38 per share, h 10.
 10 shs Overman at 38 per share, b 5.
 20 shs Overman at 38 per share.
 5 shs Overman at 38 per share, s 10.
 5 shs Confidence at 55 per share.
 Amount of sales.....\$ 44,283 00

AFTERNOON SESSION.

20 shs Yellow Jacket at 595 per foot.
 5 shs Yellow Jacket at 595 per ft, s 3.
 2 shs Savage at 950 per foot.
 1 sh Yellow Jacket at 915 per foot, s 3.
 5 shs Chollar-Potosi at 171 per ft, s 3.
 1 sh Chollar-Potosi at 171 per foot.
 5 shs Chollar-Potosi at 172½ per foot b 30.
 1 sh Belcher at 120 per foot.
 2 shs Ophir at 245 per foot.
 3 shs Confidence at 55 per sh.
 5 shs Overman at 38 per share.
 15 shs Overman at 39 per share.
 5 shs Overman at 39½ per share, h 5.
 5 shs Overman at 39 per share, b 5.
 10 shs Overman at 38½ per share, s 30.
 Amount of sales.....\$ 44,283 00

Tuesday, July 31.

1 sh Yellow Jacket at 517½ per foot, b 30.
 1 sh Yellow Jacket at 520 per foot, b 30.
 1 sh Yellow Jacket at 515 per ft, c.
 4 shs Crown Point at 940 per foot, s 3.
 4 shs Crown Point at 975 per foot.
 24 shs Ophir at 245 per foot.
 72 shs Ophir at 240 per foot.
 20 shs Ophir at 241 per foot.
 12 shs Ophir at 240 per foot, s 10.
 4 shs Ophir at 241 per foot.
 5 shs Chollar-Potosi at 172½ per ft, h 29.
 15 shs Chollar-Potosi at 172½@175 per ft, h 30.
 5 shs Chollar-Potosi at 175 per foot, b 29.
 4 shs Chollar-Potosi at 170 per foot.
 10 shs Chollar-Potosi at 177 per foot, h 30.
 3 shs Chollar-Potosi at 169 per foot.
 10 shs Chollar-Potosi at 177 per foot, h 30.
 7 shs Chollar-Potosi at 171@172 per foot.
 5 shs Chollar-Potosi at 180 per ft, h 30.
 2 shs Belcher at 107 per foot, s 3.
 3 shs Belcher at 110 per ft.
 6 shs Belcher at 115 per foot.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, August 4th, 1866.

The Money Market continues abundantly supplied with capital at the rates current for some time past, and the usual bank accommodations for acceptable business paper rule at 1@1¼ cent. per month.

Mining Stock collaterals are obtaining rather more favor, and bankers and others seem disposed to admit a more extended limit of discounts upon this description of security than for some time past. With our merchants and business men, generally, the requirement for legitimate purposes is moderate.

Receipts of treasure from domestic sources during the week amounted to \$1,100,000, and since the 1st inst. were about 500,000.

There has been no especial inquiry for bullion since the sailing of the last steamer, and gold bars are freely offered at 860@870. Silver is ruling at about par for average parcels.

Legal Tender Notes have been in better request, advancing from 71 to 73½, and closing at about 72c. bid. Gold declined in New York, on the 31st ult., to 143, since rising to 148½@149, and quotable yesterday at 149.

The Mining Share Market has shown considerable strength since Saturday last. A better feeling is discernible, and most stocks are strongly held in expectation of a further rise. The aggregate yield of leading claims last month proves to be larger than was anticipated, and from all that we can learn the probabilities favor a still greater production the ensuing fall.

We are requested to call attention to some errors which appeared in the financial column of a paper of this city a few days since. It is there stated, in speaking of the cost of materials incident to mining operations on the Comstock lode, that the 22,265 cords of wood consumed annually cost \$16 per cord, and the timber and lumber required every year—15,500,000 feet—was worth about \$40 per 1,000. As is well known, a number of lending companies, for some time past, have been furnished with wood at \$14@15 per cord, and the cost of timber has not exceeded \$28 per thousand.

Hale & Norcross has met with no sale this week, but is strongly held at full figures. The appearance of this mine is said to be most flattering, especially so in running south upon the 535-foot level. Receipts of bullion from the 1st to the 30th ult. amounted to \$139,883, from 2,718 tons of ore—an average of \$51.09 per ton.

Savage has continued to attract more attention, steadily advancing from 945 to \$1,050, then selling at \$1,065, and closing at \$1,067½. A dividend of \$50 per foot will be disbursed to the stockholders to-day, leaving some \$23,000 in the treasury of the Company. The Atchison mill was recently purchased at a cost of \$50,000, to be paid for in ten months, in installments of \$5,000 each, without interest. The capacity of this mill will be increased to 50 tons per day. During the week ending 28th ult., 812 tons of ore were extracted from the mine, and 792 tons shipped, most of which came from the 6th station. The 7th station is being opened from the old shaft. At the Curtis shaft the southwest drift is passing through the clay seam, which hounds the Hale & Norcross seam of ore to the east, and ore will probably soon be reached at that point.

3 shs Belcher at 116 per foot.
 1 sh Belcher at 115 per foot, s 3.
 4 shs Belcher at 117½ per foot.
 1 sh Savage at 950 per foot.
 4 shs Alpha, G. H., at 95 per foot.
 35 shs Exchequer at 5 per share.
 10 shs Exchequer, at 5 per share, s 3.
 10 shs Confidence at 55 per share, s 30.
 10 shs Confidence at 57½ per share.
 15 shs Overman at 39 per share, b 10.
 5 shs Overman at 33 per share, s 10.
 5 shs Overman at 38½ per share.
 15 shs Overman at 38 per share.

AFTERNOON SESSION.

4 shs Belcher at 130 per foot, h 30.
 1 sh Belcher at 121 per foot, s 3.
 2 shs Belcher at 125 per foot, s 3.
 6 shs Belcher at 125 per foot.
 1 sh Belcher at 127½ per foot.
 1 sh Belcher at 130 per foot, h 45.
 1 sh Belcher at 123 per foot, s 30.
 1 sh Belcher at 123 per foot, s 3.
 1 sh Belcher at 123 per foot.
 2 shs Yellow Jacket at 610 per foot.
 1 sh Yellow Jacket at 515 per foot, h 30.
 1 sh Yellow Jacket at 607½ per foot, b 30.
 12 shs Crown Point at 1000 per foot.
 15 shs Crown Point at 1000 per foot, h 5.
 5 shs Overman at 39 per foot, b 5.
 5 shs Overman at 38 per share, s 15.
 5 shs Overman at 39½ per share.
 5 shs Overman at 39 per share, h 10.
 5 shs Overman at 40 per share, b 30.
 10 shs Sierra Nevada at 4 per share.
 70 shs Sierra Nevada at 4½ per share.
 10 shs Sierra Nevada at 4 per sh, s 15.
 \$3,000 Legal Tender Notes at 72c.
 \$5,000 Legal Tender Notes at 72½c.
 \$5,000 Legal Tender Notes at 72½c, s 50.
 Amount of sales.....\$ 44,755 00

Wednesday, August 1.

35 shs Ophir at 245 per foot, s 3.
 24 shs Ophir at 255 per foot, s 3.
 12 shs Ophir at 255 per foot, s 30.
 12 shs Ophir at 260 per ft, s 3.
 15 shs Chollar-Potosi at 175 per foot.
 5 shs Chollar-Potosi at 175 per ft, s 3.
 5 shs Chollar-Potosi at 175 per foot.

10 shs Chollar-Potosi at 182½ per foot.
 7 shs Yellow Jacket at 610 per foot, s 30.
 2 shs Yellow Jacket at 620 per foot, b 30.
 1 sh Yellow Jacket at 515 per foot.
 4 shs Crown Point at 990 per foot, s 30.
 8 shs Crown Point at 1000 per foot.
 4 shs Crown Point at 1000 per ft, s 3.
 1 sh Belcher at 130 per foot.
 1 sh Belcher at 135 per foot, h 30.
 1 sh Belcher at 135 per foot, b 10.
 1 sh Savage at 950 per foot.
 10 shs Overman at 40 per share, b 3.
 10 shs Overman at 40 per share, h 5.
 15 shs Overman at 39 per share, s 3.
 10 shs Overman at 40 per share, h 10.
 5 shs Overman at 39 per share, s 30.
 5 shs Overman at 39½ per share, s 3.
 5 shs Overman at 41 per share, h 3.
 5 shs Imperial at 94 per share.
 5 shs Imperial at 92 per share, c.
 5 shs Imperial at 95 per share, b 30.
 5 shs Confidence at 55 per sh, s 30.
 5 shs Confidence at 56 per share, s 30.
 5 shs Bullion at 41 per share.
 50 shs Bullion at 40 per share.
 5 shs Bullion at 40 per share, s 3.
 5 shs Bullion at 41 per share, b 30.
 15 shs Bullion at 39½ per share, s 3.
 65 shs Sierra Nevada at 4½@4¼ per share.
 60 shs Sierra Nevada at 4½ per share, s 30.
 72 shs Sierra Nevada at 4 per share, s 3.
 30 shs Sierra Nevada at 4 per share, s 5.
 3 shs N B & Mission R. R. at 40 per share.
 \$10,000 Legal Tender Notes at 72½c, s 30.
 \$5,000 Legal Tender Notes at 72½c.

AFTERNOON SESSION.

5 shs Belcher at 145@145 per foot.
 3 shs Belcher at 145@150 per foot, h 30.
 5 shs Belcher at 150 per foot.
 6 shs Belcher at 155@160 per foot, h 30.
 2 shs Belcher at 157½@150 per foot, h 3.
 11 shs Belcher at 160 per share.
 1 sh Belcher at 160 per ft, s 3.
 15 shs Belcher at 162½@165 per foot, s 3.
 1 sh Yellow Jacket at 620 per foot, h 3.
 1 sh Yellow Jacket at 620 per foot, s 30.
 1 sh Yellow Jacket at 630 per foot, b 30.
 1 sh Yellow Jacket at 625 per ft.

Crown Point is in much better request, advancing from \$875 to \$1,000, and closing at \$1,000 asked. The main shaft has been re-timbered to the surface, and provided with new cages. Hoisting has begun. The north incline is going down slowly, but is said to "look remarkably well." During the month of July 1,400 tons of 3d class and 500 tons 2d class ore were worked at different mills.

Gould & Curry was sold at \$705, closing at about \$750, asked. Receipts of bullion from the company's mill alone for July amounted to \$125,000, being the product of some 3,300 tons of ore—an average of about \$38 per ton.

Yellow Jacket has been dealt in at enhanced rates, advancing from \$585 to \$665, and selling yesterday at \$675@690. We have no official report from the mine this week, but learn that the yield of bullion for the week ending 28th ult., exceeded \$55,000, and that the aggregate receipts for the past month will probably reach \$250,000. A dividend of at least \$50 per foot will be declared for July.

Ophir rose from \$237 to \$260, declined to \$246, and was dealt in yesterday at \$260@275. The newly discovered deposit of ore in the 8th station, can now be reached with facility. Some ore has appeared this week in the lower winze from the 9th gallery lying against the east wall and the seam widens, as drifted upon, toward the north.

Chollar-Potosi has been more active, and nearly 350 feet were sold, receding from \$180 to \$165, rallying to \$180 again, and then selling at \$180@182. In the various stations throughout this mine there has been no change whatever to note during the past week. The 2d station drift is in some 300 feet, and is still being driven to the west. A seam of quartz, 2½ feet wide has been met with, assaying \$2@3 per ton. During the week ending 28th ult., 655 tons of ore were sent to custom mills.

Belcher dropped from \$135 to \$107, rose to \$160, receded to \$140 @ \$135, and was sold yesterday at \$150@160. An assessment of \$45 per share was levied July 21st.

Imperial is dull and inactive, and small sales were made within a range of \$91@94, closing at \$93. The last clean-up of the company's mills amounted to \$27,694, making the aggregate receipts for the month of July about \$65,000. The ore from the red ledge in the Alta mine is said to be improving.

Overman rose from \$36 to \$42, declined to \$40, and sold yesterday at \$39.

Bullion was dealt in at \$39½@41½, closing at \$39.

Confidence steadily declined from \$57½ to \$42½, and sold at the close at \$41. The assessment of \$25 per share, rescinded a short time since, has been re-levied.

Sierra Nevada was sold at \$4½@3½, closing at \$3½. An assessment of \$4 per share was levied 2d inst.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$295,545.

2 shs Yellow Jacket at 625 per foot.
 12 shs Ophir at 260 per foot, s 30.
 12 shs Ophir at 263 per foot, b 3.
 26 shs Ophir at 260 per foot.
 12 shs Ophir at 260 per foot, s 5.
 5 shs Ophir at 260 per foot.
 12 shs Ophir at 260 per foot, s 3.
 5 shs Ophir at 260 per foot.
 5 shs Chollar-Potosi at 175 per foot s 3.
 10 shs Chollar-Potosi at 182½ per foot b 30.
 1 sh Chollar-Potosi at 172½ per foot.
 2 shs Chollar-Potosi at 178 per foot.
 20 shs Confidence at 56 per sh, s 3.
 10 shs Confidence at 59½ per foot, b 30.
 15 shs Confidence at 55 per share s 3.
 7 shs Confidence at 55 per share.
 10 shs Overman at 41 per sh, h 3.
 5 shs Overman at 40½ per share, h 3.
 10 shs Overman at 40 per share.
 10 shs Overman at 41 per sh, h 30.
 60 shs State Telegraph at 30 per cent, b 3.
 \$5,000 Legal Tender Notes at 73½c.
 Amount of sales.....\$ 67,740 00

Thursday, August 2.

1 sh Yellow Jacket at 630 per foot, s 30.
 5 shs Yellow Jacket at 640 per foot.
 1 sh Yellow Jacket at 650 per foot b 30.
 3 shs Yellow Jacket at 650 per foot h 10.
 1 sh Yellow Jacket at 645 per foot.
 4 shs Yellow Jacket at 650 per foot, h 30.
 2 shs Yellow Jacket at 650 per foot.
 1 shs Yellow Jacket at 655 per ft, h 0.
 4 shs Yellow Jacket at 545 per ft, s 3.
 5 shs Yellow Jacket at 655@650 per ft, s 3.
 1 shs Yellow Jacket at 255 per ft, h 30.
 1 sh Yellow Jacket at 655 per foot, h 3.
 1 sh Savage at 1000 per foot, s 3.
 1 sh Savage at 1037½ per foot.
 1 sh Savage at 1045 per foot, s 3.
 1 sh Savage at 1050 per foot.
 2 shs Savage at 1055@1050 per foot, h 5.
 1 sh Belcher at 150 per foot.
 2 shs Belcher at 145@150 per foot b 30.
 5 shs Belcher at 135@145 per foot.
 1 shs Belcher at 142½ per foot, s 3.
 1 sh Belcher at 140 per foot.
 12 shs Ophir at 246 per foot.
 12 shs Ophir at 250 per foot, s 30.
 12 shs Ophir at 250 per foot, s 3.
 24 shs Ophir at 250 per foot.
 20 shs Chollar-Potosi at 185 per foot, h 30.

5 shs Chollar-Potosi at 180 per foot, s 30.
 10 shs Sierra Nevada at 4 per share.
 5 shs Sierra Nevada at 3½ per share.
 50 shs Sierra Nevada at 4 per share, b 20.
 60 shs Overman at 42 per share, s 3.
 10 shs Overman at 42 per share, b 5.
 20 shs Overman at 40 per share, s 3.
 5 shs Overman at 41 per share b 15.
 1 shs Imperial at 92 per share.
 5 shs Confidence at 52 per share.
 10 shs Confidence at 50 per share, s 30.
 5 shs Confidence at 50 per share, h 30.
 20 shs Sides at 10 per foot.
 \$5,000 Legal Tender Notes at 72½c s 30.
 \$2,000 Legal Tender Notes at 72½ per ft, c.

AFTERNOON SESSION.

1 sh Yellow Jacket at 660 per foot, b 30.
 1 sh Yellow Jacket at 660 per foot h 10.
 1 sh Yellow Jacket at 660 per foot, s 3.
 1 sh Yellow Jacket at 665 per foot h 10.
 1 shs Yellow Jacket at 665 per foot.
 2 shs Savage at 1050 per foot, s 3.
 1 sh Savage at 1050 per foot, h 30.
 1 sh Savage at 1050 per foot, s 30.
 2 shs Imperial at 94 per share.
 10 shs Imperial at 94 per share, s 3.
 15 shs Confidence at 45 per ft, h 30.
 5 shs Confidence at 42 per share.
 5 shs Confidence at 42½ per share s 3.
 10 shs Overman at 41 per share, b 5.
 Amount of sales.....\$ 68,692 00

Friday, August 3.

60 shs Ophir at 255 per foot.
 45 shs Ophir at 260 per foot, s 30.
 1 shs Yellow Jacket at 675 per foot.
 7 shs Savage at 1050@1065 per foot.
 1 sh Chollar-Potosi at 180 per foot.
 2 shs Chollar-Potosi at 180 per foot.
 13 shs Belcher at 150@155 per foot.
 520 shs Daney at 6 per foot.
 110 shs Sierra Nevada at 3½ per share.
 65 shs Overman at 40 per share.
 30 shs Bullion at 38½@39 per share.
 20 shs Bullion at 39@40 per share, h 30.
 19 shs Cal Steam Nav Co at 74½ per cent.
 60 shs State Telegraph at 30 per cent.
 50 shs State Telegraph at 30 per cent.
 6 shs Oakland Railroad at 42½ per share.
 Amount of sales.....\$ 33,835 00

Mining Summary.

CALIFORNIA.

Alpine County—

From the Silver Mountain *Bulletin* of July 25th we clip the following items: Kohinoor rock assayed \$51.68 in gold, and \$98.52 in silver—total, \$150.20 per ton.... The Lady Eliza has been tapped lower down the mountain, and from present appearances ores will be produced therefrom within sixty days in quantities sufficient to employ a 20-stamp mill constantly.... The Balacava and the Winchester have sent ore to the Pioneer mill at Markleeville to be tested.... Others will send to San Francisco for the same purpose.

The Alpine *Miner* of same date says: The American company have drifted seventy-five feet, cutting across their ledge at a depth of twenty-five feet. The ten or twelve feet last cut is through a mass of blue-black ore, rich in copper, and containing silver and gold in large quantities for the depth. Several assays for gold and silver only, made by Dr. Waters of Markleeville, and Leopold Kuh of Virginia City, range from \$53.30 to \$128.18, in every case showing about one-third gold.... The Buckeye No. 2, in drifting in on their lode recently, struck a body of solid quartz covering the full size of the tunnel, and, it is said, are now confident of ability to supply a mill with pay ore.

The *Bulletin* of this 28th has these items: Charles Uzay, Metallurgist and Assayer, arrived in town on Wednesday evening, and will commence immediately the erection of furnaces at Whiteside's mill, for the purpose of working the ores from the George Washington lode. As the George Washington claim is not as yet developed to an extent to furnish a supply of ore to keep the mill in constant operation, Messrs. Uzoay & Kustel have made a contract with the Morning Star company for 10,000 tons of ore from their mine, at Mogul, to be worked here.

The *Miner* of same date says: Work on the George Law, near Markleeville, from the croppings of which such large results were obtained, is prosecuted vigorously. A tunnel is being run.

Amador County—

The *Ledger* of 28th July, has these items: We understand that Meader & Co. have leased the Coney mine for a stated period, with the privilege of purchasing, and that they contemplate making several improvements and alterations. Also that they have taken the Mannon Sulphuret Mill at Sutter Creek.... The Eagle mill is temporarily stopped whilst a tunnel is being cut. The last ore crushed paid largely.... The Golden Gate mine, which has always paid well, is now yielding richer rock than ever before. The main shaft is being rapidly deepened.... The Belding is yielding its rich sulphuret ores as freely as ever, and several additions have lately been made to the mill in the way of machinery for saving and working sulphurets. Five more stamps will soon be up, and other and further improvements made.... Several new shafts have been sunk and levels run, in the Pioneer, since Meader & Co. came into possession. The yield per ton is, we understand, five times more than before the present improvements were made in the reduction works.... The Italian is turning out abundance of forty dollar ore.... The Golden Eagle, Vaugh & Co., is said to be as rich, if not richer, than ever. They are crushing their rock at the Fogus mill.... The Pleasant Valley, or better known as "My Mary Ann," is now down to the depth of over sixty feet. They have on hand about forty tons of fine-looking rock.... The Anaconda, the richest ore mine in the district, is lying idle.... The Paugh Mine continues to yield large quantities of rich ore, which is worked at the Union Mill. The new shaft, connecting the extreme west end of the main level, will soon be completed. Large slabs of ore are daily taken out, "lousy" with gold.... The Kelly & Stevenson is in full blast.... The Excelsior is now down some 45 feet, and is yielding good ore. The first crushing is now being made at the Fogus mill, and promises well.

All in all, the mines of eastern Amador were never in a more flourishing condition. During the past ten days a number of gentlemen—capitalists and representatives of Eastern capital—have been making this place their headquarters, and "bobbing around" in search of favorable chances of investment. They could not have selected a better part of the State.

The *Ledger* says, in reference to the statement, that Amador is indebted to Calaveras for a portion of its gold returns, that the reverse is the case.

Calaveras County—

From the *Chronicle* of July 28th, we clip the following: Work is being steadily pushed forward on all the claims at Railroad Flat, and the prospects are very flattering. Post & Co. have a shaft sunk on their claim to the depth of forty feet. A quantity of unassorted rock taken from their lead and crushed at Harris' mill, yielded an average of \$40 per ton. Weihe & Co. are down thirty feet on their claim, and

have found rock of extraordinary richness; some of it prospecting as high as \$75 per ton. Butler & Co. have attained the depth of thirty feet, and developed a very fine lead; the rock averaging \$20 per ton. Granville & Co., whose claim is located in Two Dollar gulch, have reached the depth of thirty-five feet. Their lead is three feet wide, and the rock prospects \$45 per ton. Lady Frank & Co. have taken up and are working an extension of Butler & Co.'s lead, and the indications are that they have a valuable claim.

Gravel mining is not "played out" with us, notwithstanding the quartz excitement. Gleason, Sawyer & Co. have recently commenced running an incline tunnel in their claim near the Golden Gate. It is estimated that they will have to run six hundred feet before striking the lead. Paul & Co., the next claim below, on the same ridge, are running a bed-rock tunnel for the same lead.

The Copperopolis *Courier* of same date, says: It seems as if new impetus had been given to mining operations in Salt Springs Valley. We understand that two mills are now crushing rock from different leads, with satisfactory results. The Alban Ranch mine, under the efficient supervision of Mr. Steinberger, is said to be paying handsomely.

Colusa County—

The *Sum* of 28th July, says:—Mr. Burk of San Francisco has been engaged for some time in hauling out castings, brick, etc., for the erection of a Sulphur Refinery near Simon's Springs, where there is an almost inexhaustible supply of sulphur. We understand also that there are parties now preparing to put up copper smelting works at Ashton.

El Dorado County—

EL DORADO MINES.—The Placerville *Record* of July 14th, says:—The Pacific Mine, known by all old residents as having been exceedingly rich, and yielded great returns for the amount of work done upon it, but which for some cause has not been worked for a long time past, was a few days since purchased by Fitch, agent for a New York company, for the sum of twenty thousand dollars.

The *Polsom Telegraph* has the following:—It is confidently believed that the celebrated "blue lead" so rich and extensive in the upper part of Nevada and Placer counties, has been struck in Eldorado county, near Placerville. We saw an assay made by Palmer & Day, assayers in this place, from two hundred and fifty pounds of average cement from the claims of the Western Tunnel Company, whose claim is about two miles from Placerville, from which seventeen dollars in gold were realized.

Kern County—

The Mariposa *Free Press* gives extracts from a Kelso letter of date July 15th: The Atchinson company have made the purchase of the ledges they bargained for, from the Pi Ute company, and they are now hauling quartz to Rogers' mill in this place. They are down on the ledge thirty or forty feet, and the rock looks very well. Monkton, Sprague & Co., I understand, have made a sale of their ledges to a New York company. The Hope vein holds out as usual and is getting wider. The boys cleaned up, after grinding twenty-five hundred pounds of rock, and got nineteen and three quarter ounces of gold.

A correspondent of the *Visalia Delta*, writing from Havilah, speaks in glowing terms of the wonderful richness of the lode, known as Cherokee Dick, or the Big Indian. This lead has a shaft sunk to the depth of fifty feet. The pay rock is from fifteen to eighteen feet in width, and the glittering ore can be seen "sticking out" all through the mass.

The correspondent of the *Flag* says: In the Mammoth mine, the length of pay ledge is 1,600 feet; their lower tunnel is to 125 feet and progressing, when under the summit of the mountain, will be 500 feet from the surface. Their upper tunnel is in 365 feet, the lode is four feet wide in this tunnel, which is 125 feet right over the lower tunnel, on the same lead. This rock averages about \$40 per ton. They were working fourteen men at the mine. The Caldwell and Kern River Gold and Silver Mining Company's mill and lodes are situated about one mile above the village of Kernville, and at present are working forty men. The mill has twelve stamps with capacity for twenty. They are crushing eighteen tons of rock per day from the Sherman lode, which rock averages about forty dollars per ton.

Klamath County—

The Humboldt Bay *Journal* of July 19th, has an editorial on this county, from which we clip the following: The quartz veins near Sawyer's Bar have proven to be rich in gold; several mills for crushing quartz have been erected—only one of which, we believe, is at present in successful operation—the Black Bear, owned by Messrs. Conghlin, Dagget & Co. The gold bearing quartz section is extensive, and may be estimated as covering one-fourth of the county—the upper portion adjacent to Siskiyou.

There is a belt of from four to six miles in width running through the entire county, which gives evidence of containing the richest copper

veins on the Pacific slope. Great lumps of pure copper are picked up on the surface of the earth, and croppings of ore, known as red oxide and gray oxide, assaying 80 per cent., are found in abundance. Cinnabar and silver also exist on the Klamath river.

Mariposa County—

The *Free Press* of 28th July, has these items: Latest accounts from the Hamilton copper mining district are favorable. At the Bachman shaft they are down about seventy feet and have a vein of black oxide three feet in thickness with well defined foot and hanging walls.... On the Buchanan at the Roland shaft, at the depth of ninety-five feet, they have a vein six feet thick, black oxides and sulphurets. The ore improves in quality as they go down.... Green, Snediker & Co. are progressing finely with their shaft. They have made one shipment of ore and will soon ship a still larger quantity.... The Celeste is the name of a copper vein on Bear creek, two miles from the Corbett Ranch, now being vigorously worked, and which promises to prove rich. We have been shown some of the rock taken out at a depth of twenty feet, which looks exceedingly well. It contains gold and silver as well as copper.

Mono County—

Letter from Partzwick to Esmeralda *Union* dated July 18th, has the following: The Cornucopia company are still busy opening and developing their lode. One of the shafts is now down about one hundred and ninety feet, whilst the other four are being rapidly sunk, and have reached depths from one hundred to one hundred and fifty feet. The Kearsarge sustains its reputation. The Comanche is looking remarkably well, while the Diana is the same as ever; one of the richest silver bearing veins on this side of the mountains.

Nevada County—

The following items are from the *Gazette*:—We were shown yesterday some fine specimens of sulphuret ore taken from the northerly extension of the Banner mine. This extension is owned by Tisdale and Stiles, who have sunk a shaft to the depth of seventy feet, and the ledge varies from three to five feet in width. The shaft is about eighteen hundred feet from the Banner works.... On the 16th instant the Cold Spring company made a location of eighty claims on the ridge between Deer Creek and South Yuba river, having a front of four thousand feet, in the neighborhood of Willow Valley, and extending back north and east in the direction of Gopher Hill, five thousand and nine hundred feet. The development of the cement mines is going on hand in hand with the quartz.... The French mill has been employed night and day for several weeks past in crushing rock from the Wigham mine. The mill has only six stamps, and crushes probably about ten tons in twenty-four hours, the mine yielding sufficient rock to keep them running. We understand that the rock is now yielding well. In working the ore from this mine, the sulphurets are concentrated by ore separators, and five or six tons have already been saved. These assays from \$200 to \$500 a ton.... The machinery for the quartz mill of R. C. Black, to be erected on the ledge belonging to J. Young at Eureka, manufactured at the Nevada Foundry, was completed about a week ago, and as soon as teams can be procured will be delivered at its destination.

The Grass Valley *National* has these items: Wm. M. Lent and Jos. Clarke have affected the purchase of four-fifths of the Dromedary mine, located on Wolfe creek. The mine has been worked to the depth of three hundred feet, but has remained idle for over two years. Messrs. Lent and Clarke will now put up all the necessary machinery.... We this noon learned that Messrs. Peachy and Cronise had purchased the well-known Noramabua or Forrest Spring mine. One hundred thousand dollars is said to have been the sum paid for this mine, and we do not know of any place where that sum could have been better invested.

One hundred and fifteen sacks of ore are now lying at the Last Chance Copper mine ready for shipping, and in about ten days the number will be augmented to two hundred sacks. Mr. Delano informs us that the ore is being taken out in blocks weighing fifty pounds and upwards. The ore now at bank assays twenty-five per cent. copper.... The Sterling tunnel is now in 400 feet. Ledge four feet thick. This claim has lain idle for a period of some seven months, but work is about to be resumed in it.... One hundred and seventy-six tons of rock from the Consolidated Wisconsin and Illinois mine were crushed at Gold Hill mill last week, and yielded forty-one dollars in gold to the ton, besides a large quantity of rich and valuable sulphurets. This is the result of the present month's work.... Thomas, Powling & Co. have named their newly discovered ledge the Cape of Good Hope. Very rich specimens were recently taken from it.... The tunnel of the Oxford is now in 450 feet, at which distance the ledge was struck. The rock now being taken out shows large deposits of free gold and very rich sulphurets.... The contract for the erection of the Lucky company's mill has

been let, and the construction thereof will be immediately commenced.

A twentieth interest in the Eureka mine, near Grass Valley, was sold a few days since, as we learn, for \$43,000. This is equal to \$860,000 for the mine.

EXCELSIOR.—The *Gazette* says:—The Enterprise company are now pushing ahead the work vigorously on the mine, and the mill having been remodeled, will at once be started up again.... Parties recently down from Meadow Lake report that money is scarce in that locality, business dull, and the times have anything but a cheerful look. We are not surprised that this is the case. However rich the mines may be, too many people have gone there to speculate, or engage in outside business, for all, or any considerable portion of them to do well.

The Mountain *Messenger* has an article on "Summit City," from which we quote: Lots that four weeks ago were sold at fifteen hundred dollars, have within the past ten days been sold for less than half the sum, and buildings and lots will yet be sold for about the cost of materials and work. There are now perhaps a thousand men less in the district than three weeks since, and still there are many going away. Yet we do not conceive that this state of things exists from any failure or discouragement of mining prospects, but wholly and solely from the want of proof that the mines are more valuable than those of other localities, and from the general failure consequent to it, to give employment to miners and security for investment of money.

Placer County—

From the *Stars and Stripes* of August 1st we clip the following: We learn from James S. Stackhouse, Collector of the Third District, that a quartz ledge was discovered recently by some Mexicans, at Canada Hill in this county, about twenty-five miles above Michigan Bluff, the rock from which, taken from any portion of the ledge, will yield free gold at the rate of about one dollar per ounce. Parties went up from the Bluff to try to purchase the ledge.... The people of Auburn are going to build a quartz mill by subscription.... At the depth of 103 feet in the Civil Rights claim, near Newcastle, the ledge is twenty-two inches wide, and the rock like that of the Eureka, in Grass Valley.

The Placer *Herald* of July 28th says: The Little York is being worked day and night.... The incline of the Taylor, on Dutch Ravine, is now down 100 feet. The lead is well defined, and very regular.... On the Mallat claim they are driving the east and west drifts on the 50-foot level. In the east drift they now find decomposed rock, any of which prospects well in free gold.... Work on Millett's quartz mill, on Baltimore ravine, is progressing. The boilers have been set, and the engine is now being put up.... The shaft in the Golden Rule claim, at Horse Shoe Bar, is down forty feet.

Plumas County—

The Quincy *Union* of 21st July has these items: Jenkins & Kellogg, of Round Valley, forwarded below, one day last week, about \$3,400, the result of the first clean-up from about a week's crushing of the quartz from the Kittle ledge. The rock averaged \$14.50 per ton.... The Copper Smelting Works, at Genesee Valley, fired up one day last week, and is smelting ore from the Prince ledge, nt Taylorville.

Shasta County—

The *Courier* of the 28th says: The town of Shasta is now proven to be the center of the best mining district in the world. This is a broad assertion, but present prospects justify all we have said. * * We venture the assertion that there is paying quartz within a radius of five miles around Shasta to support and pay a population of 50,000 working men, to say nothing of the millions of dollars worth of machinery it would call into operation—all easy of access.... A shaft is being sunk to prospect the Big Central lode. The Clear Creek Ditch company's flume will be finished in a month.... The Mammoth company's lode at Quartz Hill, known as the Harrison, is prospecting beyond all precedent. One of the workmen brought into town this week a specimen which he declares is no more than a fair average of nine tons of rock now on the surface. Eight ounces of it crushed in a mortar yielded \$143. The estimated value of the prospect is \$5,500 per ton. There is no doubt in the minds of experts who have examined the rock that the nine tons now out will yield from \$18,000 to \$20,000, at the lowest possible estimate.

Sierra County—

The *Messenger* of 28th July, gives these items: The Good Hope Company, whose claim is situated just above town, have struck the ledge in their tunnel. The rock is mostly decomposed quartz, shows about three feet in width, and prospects well. The croppings show gold in abundance.... The Sailor Company's Mill cleaned up on Wednesday evening, after a short run of only six tons, the result exceeding their most sanguine expectations.... Negotiations are in progress for the

salo of the Oak Flat company's ledge to parties from San Francisco, of whom ex-Sheriff Kirkpatrick is one. The boiler for a forty-horse engine, for the Greenback claim, Alleghany, is on the ground, and the engine is on the way. Gov. Newell proposes to erect a ten-stamp mill as soon as plenty of men and money can do it.

Siskiyou County—

A company of Chinamen, on the North Fork of Greenhorn, in Siskiyou county, took out a nugget valued at \$469, last Saturday, and there was some excitement on the creek concerning its discovery.

Tuolumne County—

From the *Columbian Citizen* (late *Courier*), of July 28th, we clip these items: The Columbia Company, on Main Gulch, at the foot of Broadway, are preparing now to wash up. They have been running their sluices for nearly a month. The "Tiger boys," after a run of four or five weeks, are also preparing to wash up. This claim pays remarkably well. The Haines boys are "plowing" up, with their two hydraulics, the large flat at the foot of Broadway and Silver streets. They are also busy at work ranning up their flume through the town. Fourteen tons of rock crashed by the Mount Vernon company, last week, yielded the handsome sum of \$1,900. Messrs. Ward, Evans & Co. are taking out, this week, some exceedingly rich rock. Their lead is the old Morse lead. "Shanghai," two-and-a-half miles northeast of this city, is paying splendidly. Last week, a run of five days yielded \$1,400. The vein is two feet wide and the rock easily excavated. Two men are employed around the works. The Sonora Gold Company has, we hear, suspended operations for the present.

NEVADA.

The Virginia City *Union* says: The Kentuck mine is one of the few paying mines in Gold Hill, and is one of the least talked about. It is under the management of James Wright. This claim is being worked with excellent success. Their shaft is now down 400 feet, and as far as they can go with the machinery they have now on hand, owing to the large quantity of water. They have enough ore in sight to keep the mine running for a year.

Reese River—

The following items are from the *Reveille*: We were shown this morning a small bar of silver bullion, the first product of the mines of the Palmetto District, lying about 180 miles south of Austin. The bar weighed 111 ounces, and bore the stamped value of \$85.58, and was produced from 982 ounces from the New York ledge, which is at the rate of \$175 per ton. Five bars of bullion, obtained from ore of the North River Mine, are described as follows:—No. 1 weighed 1,025 ounces, was 850 fine, and valued at \$1,264.7; No. 2 1,187 ounces, 845 fine, value \$1,297.34; No. 3 1,047 ounces, 830 fine, value \$1,123.26; No. 4 1,067 ounces, 862 fine, value \$1,189.17; No. 5 555 ounces, 808 fine, value \$580; total weight 4,881 ounces; total value \$5,316. The bullion was produced from twelve tons of ore, which yielded the handsome average of \$443 per ton. We have been informed that the owners of the North River mine are preparing to erect hoisting machinery, with the intention of prosecuting its work systematically and steadily. Specimens of mineral brought in yesterday from the Northumberland District, yielded the following figures: first assay, \$1,765.26 of silver per ton; second assay, \$1,966. We have lying before us two beautiful specimens of mineral obtained from the Twin Ophirs of the La Platte Company, in the North Twin River District. They would be prized as gems in any cabinet of minerals. Both contain specks and laminæ of native silver.

The new Keystone mill crushed fifteen tons of quartz in eleven and a half hours. Its capacity is so much greater than that of the roasting furnaces that it remains idle a portion of the time. We saw to-day a large bar of silver bullion, the first fruits of the mines of the La Platte company, situated in the North Twin River district. The bar weighed 1,324 ounces, was 836 fine, and valued at \$1,431.38. It was obtained from ore out of the Fairmount and Twin Ophirs. The prospectors in Philadelphia district, stimulated by the grand features of the El Dorado, High Bridge, and Transylvania, have been for weeks searching for blind ledges, or ledges that do not crop above the surface. Their search has been rewarded by the discovery of ore identical in appearance with that from Transylvania. The Pioneer mill was sold on July 23d for the benefit of the lien-holders. The El Dorado ledge, in Philadelphia district, is eighteen feet thick, and bears the richest of silver ore throughout. Some samples of very fine ore were shown to us to-day by Mr. George Russell. They were obtained from the Continental claim, on the Nevada Giant ledge, in the Cortez district. The ore is of remarkably compact texture, and we think it good for \$200 a ton. The Morgan and Muncey has fairly entered the ring. Its hoisting works were set in motion yesterday.

The *Nye County News* of the 21st July says: We still continue to hear good reports from all parts of the county. The Knickerbocker mill is running steadily. In Mammoth district there is also considerable work being done, and the Mt. Vernon company is pushing work upon their claims. Work is being rushed ahead upon the Murphy company's mill, also upon the mine, and many other claims throughout the district are being opened, with gratifying results. In North Twin River district there is also considerable work doing. The La Platte company have a large force at work upon their claims, and from present appearance it is probable they will in a short time commence the erection of a mill. Any amount of good ore is brought in from Hot Creek district, and we were shown by Doctor Bowman an assay made from a ledge in which he is owner, giving a result of \$110.66, from top rock. Since our last report, the Knickerbocker mill has shipped 5,384 ounces of bullion. The shipments are steadily increasing, and we hope to see the Pioneer mill running before long, which will greatly add to the amount now shipped.

A letter to the *Calaveras Chronicle*, says: Assays have been made in Lone, of rock from Hot Creek district, reaching as high as \$3,700 per ton. Nye county is destined to rank A No. 1 in point of rich mines, and although I was the victim to a considerable amount, in an enterprise in the county soon after its settlement, I am now ready to admit what I have always entertained of the mines, that they are the mines of the State. Mark my prediction.

Emeralda—

The *Union* of July 28th, says: We are informed by a gentleman just in from Columbus that work has been commenced on the Major, Tompkins and Gibraltar ledges from which rich ore is being taken out. Since it has become known that arrangements are being made to put a mill in operation there this fall, the miners have commenced work in good earnest so that by the time the mill will be ready to start up there will be ore on hand sufficient to keep it running night and day for a long time.

The Diana company, with a little 4-stamp hand-box mill, takes out from \$1,200 to \$1,600 per week; the ore averaging in the neighborhood of \$160 per ton, and then so faulty is the manner of working it that not over two-thirds of the precious metal is saved. The proper manner of working here is by smelting process. From the Sierra Blanca company's claims, the Elmira and Crocker, ore \$300 per ton was obtained in this manner; the yield being within a fraction of three per cent. of the assay, the closest it is believed ever obtained in the State.

Pahranaagat—

The *Reveille* says: We have been shown a letter written at Pahranaagat by W. T. Nichols, in which the writer says the place is improving rapidly. Quite a number of the ledges were being worked to advantage, and Nichols thinks all they need is the means of reducing their ores to ensure an early shipment of silver.

IDAHO.

From the *Owyhee Avalanche* of July 14th, we clip the following items: The Indian "Situation" is all safe. Two hundred well equipped citizens are still in the field. Messrs. Moore & Fogus cleaned up \$13,500 during the past week. A portion of the week was spent in taking up and repairing one of the batteries in the Morning Star mill. Business is proceeding as usual. A new ledge was discovered last week on Florida Mountain, just west of Ruby. The rock looks well and is being assayed. Col. Larnabee showed us some very rich rock from the Virginia City ledge, Flint district. It shows moss silver to the naked eye. Development proves this ledge to be better than even its owners expected. The Oro Fino are sinking a new shaft to the north of the present whim shaft, for the erection of steam hoisting works—the machinery for which is on the ground. The War Eagle silver mining company have let a contract to sink a shaft on the Revenue.

A letter from Ruby City to the *Marysville Appeal*, July 27th, says: Booneville is now pretty much dilapidated. Jordan creek is principally in the hands of Chinamen. A new district is springing up about seven miles south of here, and is supposed to be rich in minerals; this locality is known as Flint district. Silver City is the most flourishing of the camps here, and is growing rapidly.

The principal mines are the Oro Fino, Poor-man, Morning Star, Hays & Ray, and Empire; most all of which are in litigation. We have seen some almost solid silver specimens from the Morning Star. The mills are stamping ore from the Oro Fino and from a place called Jacob's gulch, which is reported very rich. The mills are very small, having only five, eight and ten stamps.

MONTANA.

The *Post* of July 7th, has these items: We learn that another big bar has been made by the company now at work on Bammer Dan's bar, below this place. (Virginia City). Our informant tells us that the company cleaned up

\$2,000 for one week's run. They have opened their ground properly and work it with hydraulics. On Wednesday last, a train of wagons arrived in town laden with machinery for the Scranton gold and silver mining company. The Montana hydraulic mining company, on Nugget gulch and Wisconsin creek, have done a large amount of work and are about ready to take out bushels of money. Everything looks encouragingly for hydraulic mining. We have seen some very rich specimen of quartz rock from lodes discovered during the week, in Summit district. One of the lodes is sixteen and a half feet in width. We have seen, during the past week, several beautiful rings, with settings obtained from the Garnet lode, at Summit. This stone is much richer in color than the foreign garnet, and bears a close resemblance to the ballas ruby. When set with pearls, it is very beautiful. We learn that the mines below town, on Alder gulch, have been paying better, for the past week, than for some time before. We are happy to say that the prospectors for quartz are meeting with good success in their labors, all over the Territory. Discoveries are being daily made in almost every district. Pipestone is among the leading localities; but in Summit district, in the country lying north of Alder gulch, not yet much explored; at Silver Bow, around McClellan, Confederate, New York, Big Bear, Deer Lodge, the Missouri, Edgerton and divers other places, quartz is being struck by all the old hands, and frequently by inexperienced gold seekers. On the divide between Oro Fino and Lamp gulches, in Edgerton, a fine lode, called the Organic, has been located. The ore closely resembles the Whitlatch, in Owyhee Park.

Pipestone correspondent of same paper says: The Geneva mill is running day and night on \$35 rock. The Lion prospects from the grass roots, \$800 per ton. The Mammoth lode is the pride and boast of Pipestone. The extensions on this lode are numerous and well defined—among them are the Buckeye, Keystone, Overland, Rothschild and Mammoth No. 2. Extensions on the "Bully Girl" lode are in great demand.

Letter from Wisconsin creek to same, says: Reports from Bevin's gulch are flattering; large amounts of money are being taken out there this season; Mr. William Fern is taking out at the rate of \$330 per day to the five hands. Young Bros. are also taking out good pay from their ground. In fact, all the miners feel well, and have money in their pockets. The bed rock lumes are paying institutions. Messrs. Ramsey, Turner & Co., are taking out from theirs on an average of an ounce per day to the hand; some at the upper part of the gulch are doing still better. Huffaker's dry gulch also pays well; a nugget weighing \$144 was taken out of it lately.

Blackfoot letter says: Very fine prospects have been found at the junction of Mountain Meadow creek and Allen's Fork of Little Blackfoot. The mines on Carpenter's bar and Prairie gulch are fully up to the expectations of their lucky owners. I have heard of no extraordinary rich runs being made, like they have had on McClellan's; but what is better, the claims pay very regularly—some of them from two to four ounces to the man.

Letter from Park City, says: New lodes of great value are continually found. The Backhorn shows a good wide vein of quartz, which prospects largely in gold. The Whitney lode is ten feet in width, and prospects to the tune of \$1,400 to the ton. This is beautifully located in a dense growth of timber, and near a large stream of water. The Young America has a crevice of over eight feet in width, and the quartz shows gold in nearly every piece. Large amounts of money are being taken out at Silver Bow.

The *Radiator* of June 30th, has a letter from Bear City, Deer Lodge county, from which we clip the following: All is life here. Preparations for mining, and mining already begun, continue to increase. In a number of claims which have been worked some time, better pay than ever is now taken out, while some claims lately prospected in the lower part of the lower district, within about two miles of the Hellgate, are reported rich.

COLORADO.

From the *Journal* of July 16th, we clip these items: In Georgetown and Argentine districts, there are some ten or twelve enterprises now being prosecuted by Eastern capital. The smelters are getting along rapidly and have high hopes, and the district is constantly extending. The Keith mill started day before yesterday, and will doubtless run steady in future. Mr. Du Bois is pushing on the completion of his mill. We hear that the Sierra Madre crushing and dressing works started up yesterday. The latter are a fac simile of those in the Hartz Mountains, where the art has been carried to absolute perfection. There is a good time coming. Merchandise continues to arrive in large quantities, including iron, steel, and mining supplies. Miners contract to sink shafts and run adits for less than

half what they would a year ago, and make wages. Everybody is mining instead of building huge mills. The Keith process and smelting are growing in favor. The new silver districts are being developed. The Chicago company are putting in foundations for two large mills. Mr. Fields is at work on the Champion lode, in Trail Run. Galch mining at Buckskin is looking up. A party on Beaver creek are taking out \$50 per day to the hand. They have been working four years with indifferent success. In the Etna lode, two men have contracted to sink the shaft, five by eight feet in size, twenty-five feet for \$18 a foot. Since, they have taken out at least twelve tons of ore. Some of this has been sold to Lyon & Co., who dressed about 9,000 pounds gross, to 4,000 of head ore for which they pay \$50 a ton. This, the owners of the lode inform us, more than twice pays present expenses.

The *Register* says: Capt. Sanderson who is just in from Pera district, on one of the northern branches of the Snake, brings the most encouraging reports. He has laid on our table some elegant specimens of argentiferous galena. He has six men at work opening mines. One of these mines has a crevice ten feet wide, and some even wider. They are very rich in silver. Work will not cease with winter, but will be continued without cessation. His company is acting wisely. They do not propose to erect machinery or furnaces until they have ores out.

The *Denver News* of July 11th, says of the Bear River mines: But little prospecting has been done, as the company of three persons who worked there for a little while last season were in constant fear of Indians. Five gold bearing galches were discovered. The metal is of that variety termed "shot gold" by miners. One shaft nine feet deep has been sunk without reaching the bed-rock, the dirt yielding a good prospect from the grass roots down. Those acquainted with the mines feel very confident that, from the already discovered indications, the mines will pay \$15 per day for each hand employed. Nothing is known of the quartz lodes of the Bear River country, as there has been no prospecting for them yet done.

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W. B. EWER,.....SENIOR EDITOR.

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SAN FRANCISCO, Jan 11th, 1866.**Mr. I. N. Hudson**, is authorized to solicit subscriptions, advertising, etc., for the *MINING AND SCIENTIFIC PRESS*, in San Francisco, and to receipt for the same.**It is impossible** for editors to know all the merits and demerits of their correspondence, consequently the reader must not receive the opinions of our contributors as our own. Intelligent discussion is invited upon all sides and the evidence of any error which may appear will be received in friendship and treated with respect.

San Francisco:

Saturday Morning, Aug. 4; 1866.

SUPERIORITY OF CALIFORNIA HOSE.—An interesting test of the comparative merits of Eastern and California-made hose, took place on Monday last, at the trial of the new steam fire-engine. Samples of 200 feet each of hose from two Eastern manufactories were first taken, and subsequently samples of 100 feet each of California-made hose—the one from the establishment of M. M. Cook & Son, the other from that of J. J. Fulton. The engine first displayed her splendid power by playing four streams at once, fairly deluging the streets with water. After this the different samples of hose were taken up, with the following result: The first lot of Eastern hose bursted under a pressure of 180 pounds to the square inch; the second lot of Eastern hose gave way at 205 pounds pressure. The California-made hose was then brought on. Mr. J. J. Fulton's reached a pressure of 215 pounds, without weakening, when the pressure was removed without allowing it to reach its bursting point. The hose of M. M. Cook & Son was then produced, after which the maximum test was tried, the hose reaching a pressure of 225 pounds before bursting. The excitement of the trial up to this point was very great, and the puffing monster tugged away so hard at the stubborn hose, that the crowd began to stand back as if fearful lest the boiler should burst sooner than the hose. The result of this trial must be exceedingly gratifying to our California manufacturers, who have now proven, by repeated trials, that they can make a hose altogether superior to the best imported article. It should be stated that the California hose was manufactured of California-made leather. Mr. Cook & Son are now filling orders for hydraulic hose from various parts of the State, experience having proven that leather is cheaper than canvas, under most circumstances.

Mr. Fulton's hose was made by Mr. Henry L. Zepf, at the Sixth street tannery, of which Mr. Fulton is proprietor. The new fire engine, by which these trials were made, carries 160 lbs. of steam to the square inch, and exerts a water pressure of 260 pounds.

MAP OF THE SEAT OF WAR.—A. Gensoul, at the Pacific Map Depot, 511 Montgomery street, has published a very correct and useful "Map of the Seat of War in Europe," upon which the tracks of the great armies now moving over the political chess board of Europe can be distinctly traced. This publication is both useful and timely, and should be in the possession of every person who would read, understandingly, the great events now transpiring in that portion of the world.

The oldest house in the United States now standing as it was originally built, is the Rev. Dr. Whitefield's, at Guilford, Connecticut. It was built in 1639.

THE NON-INTERMENT CASE.

The papers of this city during the past week have had considerable to say about a case of non-interment, wherein Mr. T. Cowing, of 323 First street, has seen fit to place the remains of his wife, inclosed in an air-tight casket, in a vault in the rear portion of the hasement of his premises. It appears that the wife died about two years and a half ago, and that about six weeks since the gentleman, for the first time, removed the wooden panel over the glass of the casket, and to his surprise found the remains almost as perfect as when first placed there. The flesh upon the face was plump, as in life; the eyes quite natural, having merely sunk back into their sockets; the hair adhered apparently as firmly to the scalp as in life; the skin, however, had assumed a tawny hue, and the body appeared somewhat mummified, but without the dried and shriveled appearance usually attending such preservation; the flesh is moist, and yielding to the slightest pressure; it is also elastic, an indentation disappearing almost as quickly as in the living body. Recollecting that some extraordinary circumstances attended his wife's decease, he called in the aid of some medical parties, had the remains more carefully examined, and a portion of the stomach taken out for analysis. Dr. Lanzweert, who has had large experience as a chemist, in *post mortem* examinations, was subsequently called in, the body again examined, and portions of the liver, kidneys, and other organs removed for further examinations, which are now in progress.

Our object in the present notice is simply to call attention to the scientific interest attached to the case, without any reference to the truth of the various reports which have been circulated with regard to the affair in the newspapers.

We called at the premises yesterday and examined the corpse. Its preservation is certainly very remarkable, especially as no embalming process has been employed, as has been erroneously stated. For the furtherance of science, Mr. Cowing allowed a photograph to be taken of the face, to preserve, so far as possible, its exact appearance at the present time.

After the first incision had been made by the gentlemen first called, the fluids of the body appear to have escaped, and in the preparations for the second incision, this fluid was removed. The "hose washings," of which mention has been made in the daily papers, was the removal of a portion of this fluid from the floor of an open room in the basement. The fluid, at the time of removal, was, of course, somewhat offensive. At the time of our visit, yesterday, we perceived no unpleasant odor, further than that which would be noticed from a body just placed in a damp tomb. The presence of the body certainly could not have been suspected by any one standing near the closed door of the vault.

The party having the body in his possession has been complained of under Sec. 6, Chap. 3, Order 677, for allowing his premises to become nauseous, foul and offensive, and prejudicial to public health and comfort. The case came up yesterday, and was postponed until to-day, with the understanding that the body would in the meantime be removed to a proper vault in the cemetery. The cause of justice and science having been fully satisfied, the request of the Court will be complied with.

This is one of the most singular cases of remarkable preservation of bodily tissue on record. We append two or three similar cases, which have been recorded in the annals of science:

Francis Miron, a descendant from the Miron, who were successively physicians to the Kings of France, from Charles VIII to Henry III, died in 1609, and placed in a hermetically closed casket. His tomb was recently opened, and his body found in an admirable state of preservation.

The tomb of Henry IV, of France, was opened in 1782, and his body found in such a good state of preservation that his features were perfectly recognizable.

The coffin containing the remains of Gusta-

vus III, of Sweden, was recently opened, and the face of the deceased was found to be in a perfect state of preservation, although his body had fallen into decay.

There are numerous other instances of similar preservation on record, to which we cannot now refer. The causes which produced such preservation have never been pointed out. Efforts are being made in the present case, in this city, to ascertain the cause. Should any discoveries in that direction be made, we shall not fail to record the result.

A NON-RECOIL GUN—A NEW PRINCIPLE IN EXPLOSIONS.

A Mr. Harding has been making experiments in England, with open steel tubes, in which he inserts a charge of gunpowder, backed by a felt wad, and a short distance in the rear of that another felt wad is introduced, leaving a considerable air space between the two wads. The powder is then placed upon the top of the first wad, and a ball in immediate contact with the charge. The charge is then ignited in the usual manner, and the propulsive effect is said to be equal to that of a gun with a breech, while the wads at the rear end are torn into lint. The tube has no recoil.

These are the facts, in brief, in relation to this experiment, which, if correctly stated, involve a principle in the resistance of gases hitherto entirely unknown. The genuineness of these experiments, and the accuracy of the facts as reported, are credited by highly respectable journals on both sides of the Atlantic. We are not advised, however, whether they have been verified by any other party than the one which originally announced them.

Taking it for granted that the experiments are genuine, it is interesting to inquire into the philosophy of this new principle in gases. The *Scientific American* puts forth the following theory:

Between the charge and the ball there is no inclosed air space, but between the charge and the end wad there is. The resistance of the end wad must be equal, or nearly so, to the force exerted upon the projectile, yet one presents but a slight mechanical obstruction, while the other has the resistance of gravity and the column of air between it and the muzzle of the gun.

In commenting upon this experiment, the law relating to the transmission of sound in waves forces itself upon our attention, but does not seem to explain satisfactorily the facts involved in these trials. The only solution which seems at all promising is that of the wedging or transverse jamming of the particles of compressed air between the two wads. It is known that a gun barrel can be burst by a slight obstruction placed in the muzzle, confining the air above the projectile and charge. But in this case the fracture is not always toward the muzzle, where the greatest compression would be likely to occur, but at the breech, the strongest part. We can account for this only on the supposition that the temporary obstruction at the muzzle compels the particles of the explosive gas to force themselves upon those immediately in front, thus producing a strain upon the walls of the tube.

In the case of an open breech, temporarily closed by wads inclosing an air space, the air thus confined is compressed, and finding no immediate exit or release, we may consider the globular particles of the air to be forced into wedged-shaped or cone-like forms, thus pressing laterally against the sides of the tube, and forming for an instant a diaphragm of resistance as a substitute for the solid breech. It is well known that waves of sound can be propelled only at the rate of 1,100 feet per second, while the velocity of a ball propelled from a gun by an explosive is about 1,600 feet per second. There is, therefore, a loss of time between the movement of the ball and that of the resisting wads. In other words, the compressed atmosphere confined between the two wads behind the charge, does not have time to resist or recover from the sudden compression until the projectile is driven from the gun.

The following law with the regard to the flowing of angular fragments like sand, may render more clear the above explanation of the *Scientific American*, with regard to the compression of the particles of air into angular shapes, which, in their normal condition, are supposed to be round:—When a perpendicular tube is filled with sand, very little of the weight is sustained by the bottom of the tube; only so much, indeed, as would equal the weight of

a cone of sand, standing on the bottom of that tube. Nearly the whole weight of the column is supported by the walls of the tube. If a tube an inch or so in diameter be filled for about six inches or more with sand, and laid horizontally on a table, all attempts to push the sand out of the tube, by a stick of nearly the same diameter, will fail, on account of the large amount of pressure which will be brought to bear on the sides, by the wedging of the irregular particles of sand. It is probably in this manner that the particles of air, changed from their globular to an angular shape, are made to press against the sides of the gun-barrel with such force as to supply, for an instant, a breech to the same.

CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

DR. R. A. COCHRAN, of Downieville, Sierra county, sends us a very fine collection of specimens from some of the representative mines of that county. We observe, among the number, the Sailor Company, a new discovery elsewhere noticed; the Sierra Buttes Company, one of the earliest and most important quartz developments in that part of the State; the Oak Flat, recently sold for \$40,000 (specimen showing coarse gold, and very much resembling the rich quartz of the Eureka and other deep mines in Grass Valley); the Primrose, a brownish colored friable quartz, stained with green carbonate of copper, carrying iron pyrites rich in gold, and free gold in the quartz; the Wheeler ledge, represented by a rich specimen of partially decomposed sulphurets, showing gold all through it; the Fac Simile, so much resembling the Wheeler that we are inclined to think it took its name from that resemblance (the sulphurets of this mine are said to be worth \$1,500 to the ton—the samples before us are worth five times that amount), and the Good Hope, which, though it does not show any free gold, gives great hope of a most reliable mine, well charged with gold bearing sulphurets. The entire collection certainly presents a most encouraging evidence of great value in the quartz mines of Sierra county.

WILL S. GREEN, sends a number of copper specimens from Colusa county, showing yellow sulphurets of copper. The percentage of sulphurets is small, but as the samples were taken from near the surface, they are quite sufficient to indicate a good supply of valuable mineral in depth. The character of the sulphurets is exceedingly good, and when found in a concentrated form, will assay as high as any similar ore in the State.

C. ANDERSON sends us several specimens of iron pyrites, almost entirely free from quartz, but interstratified with galena. They are from the Swedenborg mine, West Point, Calaveras county. We have no information as to the value of these sulphurets; but should judge from their appearance that they must contain a large amount of gold.

J. B. BACCHUS, Jr., has sent a specimen of copper ore from Capparum, Red Cove district, Klamath county. The specimen is made up of copper pyrites, red oxide, green carbonate and native copper—exceedingly rich.

WM. R. BRANSHAW contributes a lot of opals from the famous opal mine, on Stockton Ridge, near Mokelumne Hill. They come to us embedded in their enclosing earth, a trachyte of sedimentary formation.

Mons. NEVIN contributes a specimen of brown silicious rock, seamed with ngate.

WM. SHERRY sends a box of specimens from Indian gulch, Mariposa county, mostly copper and copper "indications." He also sends a specimen of tremolite, of a yellowish-white color, with radiated needle-form crystals. This mineral is composed of silica, magnesia and lime, in about the proportions of 60, 25 and 13, with traces of iron, manganese and aluminum. The Nos. with which these specimens were marked became detached, from being loosely packed.

NEW BOOKS.

GEOLOGICAL SURVEY OF CALIFORNIA.—Mining Statistics, No. 1. Quartz Mines and Mills between the Merced and Stanislaus Rivers.

We have received, under the above title, the first sixteen pages of a tabular statement of the condition of the auriferous quartz mines of California, compiled by A. Remond, of the State Geological Survey, and published under the direction of J. D. Whitney, the State Geologist. The pages before us are the results of an examination of seventy-seven gold mining and sixty-five quartz mills, situated within the region designated, all of which were visited by Mr. Remond, during the months of August to November, 1865. Of the seventy-four mines, fifty-six were being worked at the time; and of the sixty-five mills, twenty-three were running. The mines are distributed through the different kinds of rock as follows:

In Granitic.....	23
In Mica Slate.....	23
Partly in Granitic and partly in Mica Slate.....	6
In Clay Slate.....	8
In the Green Porphyritic Schists.....	3
Along the Great Quartz Vein.....	20

The facts published in the statement before us, with regard to each mine, are as follows: Name of the mine, location, date of visit, whether worked, inclosing rock of the vein, strike, dip, average width, veinstone, character of sulphurets present, yield of ore per ton, cost of extraction, cost of transportation to the mill, cost of treatment at the mill. With regard to the mills, the following statistics are given: Location, whether running, when erected, cost, power employed, number of stamps, kind of amalgamating machinery, cost of roads or trails, cost of flumes and ditches.

Each of the above items are collected so far as possible. These statistics, when completed for the entire State, will be very valuable, and the Survey could scarcely have placed this portion of the work in better hands than those of Mr. Remond.

NOTICE OF GEOLOGICAL EXPLORATIONS IN NORTHERN MEXICO, made during the years 1863-'65. By A. Remond, San Francisco.

The above paper has been compiled for publication by Professor Whitney, of the California Geological Survey, from notes taken by Mr. Remond, and was presented to the California Academy of Natural Sciences, at one of their late meetings, in whose published proceedings it now appears. These "notes" are among the most valuable and reliable which have yet appeared with regard to the interesting mineral region of Northern Mexico. They comprise, in a concise form, a brief synopsis of the topography and general geology of the region, with a tabular statement, showing the position and general characteristics of fifty-seven of the principal mines.

DR. MACGOWAN.—It is known to many of our citizens that Dr. Macgown, Commissioner of the East India Telegraph Co., a company organized for the purpose of opening telegraphic communication between the principal ports of China and Japan, and with the view of eventually connecting that part of the world with the great Russian telegraphic enterprise, is now with his family enjoining for a short time to this city, previous to his departure for China. At a meeting of the Board of Supervisors, on Monday evening last, the Doctor was invited to address that body at their rooms on Monday evening next. Dr. Macgown, during a residence of nearly twenty years in China and Japan, has gathered a great number of curious and scientific facts regarding those interesting countries, by narrating which he has won the regard of numerous learned societies and appreciative audiences in the United States and England. The subject which he proposes to speak of before the City Fathers is the importance of the industrial and scientific exploration, which he is about to undertake, to the commercial interests of the Pacific States. We trust the Doctor, after addressing the "Fathers" in these important matters, will extend the sphere of his instructions to the great mass of the people, through a call from either the Mercantile Library Association or the Mechanics' Institute.

A LITTLE BOY recently died from playfully piling stones on his stomach while lying down.

NEW PATENTS.

Recently issued from the United States Patent Office, and of special interest to residents on this coast.

DRILLING MACHINE FOR WELLS.—M. E. Abbott, Summit Hill, Pa.: I claim, 1st, the arrangement of devices herein described for imparting to the drill rod a movement in a vertical plane, the same consisting in securing it within the frame or cross-bar, moving in suitable vertical guide-rods or bars, and connected with the engine handle, in any proper manner. 2d, Revolving the drill through the vertical movement of the same by means of a sliding plate, moving in and between parallel inclined guides, and provided with a spring pawl, engaging with the ratchet-wheel of the frame, arranged and operating in the manner described. 3d, The combination of jaws, and bent arms, arranged and operating with a rod, in the manner and for the purpose specified. 4th, The combination of the jaws and lever frame, arranged and operating with a rod, in the manner and for the purpose specified. 5th, In the described combination with the drill-rod, and the beam, for operating the same, I claim the crank-arms, rods, and adjustable tappets, arranged and employed substantially as set forth, to regulate the stroke of the drill.

APPARATUS FOR INDUCING THE FLOW OF OIL FROM WELLS.—John B. Christian, Mount Carroll, Illinois: I claim, 1st, The combination of a flanged pipe, with a slotted double hollow cylinder, and another cylinder, as arranged in relation to each other, substantially as and for the purpose specified. 2d, Lowering the pipe or its equivalent, and securing it firmly in its place in the well, by means of the tube, with its circular base, in combination with the rod, substantially as set forth.

OIL CRUSHER.—Joseph Fowler, Rahway, N. J.: I claim, 1st, The crank-shaft and connecting rods, in combination with jaws, when the parts are arranged and operating as and for the purposes specified. 2d, In combination with the jaws, I claim the adjustable side pieces and screws, for the purposes and as set forth.

COLLECTING THE LIGHT OILS FROM OIL WELLS. John Johnson, Saco, Maine. Ante-dated May 10, 1866: I claim, 1st, The separating and gathering at the wells a new article of commerce, viz.: The light condensable vapors which rise with petroleum, and which may be pumped up under any suitable seal and condensed, substantially as herein set forth. 2d, Volatilizing and condensing the condensable products from petroleum at the wells, by forcing air or gases through petroleum for the purpose herein set forth substantially as specified.

TOOL FOR REMOVING SCALE IN BOILER TUBES. Philip C. Rowe, Boston, Mass.: I claim, 1st, In combination with a cutter-head, a tubular screw, with an internal screw, arranged to operate substantially as described. 2d, In combination with the above, I claim supporting the nut for the screw, the turn-buckle clamping device, substantially as set forth. 3d, The construction and arrangement of the parts described, by which the cutters of the head are adjusted, substantially as specified.

TREATING OILS.—H. K. Taylor and D. M. Graham, Cleveland, Ohio: We claim, 1st, The treatment of petroleum and other similar hydrocarbons by means of nascent, hydrochloric acids, chlorine, fluorine, or other equivalent chemical re-agent, so as to change the constitution of the oil and purify it, substantially as herein described. 2d, The use of sulphuric acid, nitric acid, or salts containing these, or either of them, when used in combination with other materials, such as herein described, or their equivalents, for the purpose of treating petroleum or other hydrocarbons, as described.

ROCK DRILL.—Owen G. Warren, New York City: I claim loading the shaft with the collar weight to render unnecessary a high lift and for rapid boring.

PROCESS OF REFINING HYDROCARBON OILS. Philip Weinsberger, Pittsburg, Pa.: I claim the above described process of purifying distilled petroleum or other liquid hydrocarbons, without the aid of any alkalis, by means and with the use of water at 212° Fahr., or at approximate degrees of temperature, in the manner specified.

ROCK DRILLING MACHINE.—Walter Hyde, assignor to Mrs. Deborah A. Bailou, New York City: I claim, 1st, An eccentric gear, in combination with a platform, handle and hammer, constructed and operating substantially as and for the purpose specified. 2d, The slot, E, in the bracket, F, in combination with the eccentric gear and hammer, constructed and operating substantially as and for the purpose set forth. 3d, The curved rod, G, and double-cranks, H, in combination with the eccentric gear, and hammer, constructed and operating substantially as and for the purpose described.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, in one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. DEWEY & CO., Patent Agents, 505 Clay street, San Francisco.

LIST OF OFFICERS OF CORPORATIONS AND MINING COMPANIES.

[PUBLISHED IN THE FIRST ISSUE OF EACH MONTH.]

[Below we give the date of recent meetings held in this city, and the names of officers chosen or appointed. Every bona fide company is invited to send us the result of their election, to be thus put on record, gratuitously, with any other facts of general interest.]

ASSURANCE M. Co.—July 9th. Trustees: O. C. Wheeler, Geo. R. Spinney, C. L. Chrr, C. W. M. Smith, J. A. Eaton. President, O. C. Wheeler; Vice President, Geo. R. Spinney; Secretary, H. H. Russell; Treasurer, J. A. Eaton.

MELONES AND STANISLAUS G. & S. M. Co.—July 10th. Trustees: Robert Sherwood, R. Bayerque, G. K. Stevenot, J. G. Klumpke, and P. M. M. President, R. Sherwood; Secretary, Geo. Congdon.

CHOLLAR-POKOSI M. Co.—July 9th. Trustees: A. K. P. Harmon, Wm. E. Barron, A. C. Peachy, B. F. Sherwood, Chms. Hosmer, M. C. Hilley, Lloyd Tevis. President, A. K. P. Harmon; Secretary, W. T. Dean; Treasurer, Wm. C. Rolston; Superintendant, Hrvsy Beckwith.

TUNNELING G. & S. M. Co.—July 31. Trustees: Camila Martin, F. O. Wegeuer, Chas. Piada, P. G. Vennrd, Ottotrain Gori, H. Huguet, R. Wegeuer. President, Camila Martin; Secretary and Treasurer, R. Wegeuer; Superintendent, H. Huguet.

RECENT INCORPORATIONS.

CHALK MOUNTAIN BLUE GRAVEL Co.—Nevada county. Capital stock, \$600,000; 6,000 shares; \$100 per share. Trustees: J. L. Sanford, A. C. Hendley, E. C. McComb, Isaac Swain, and A. J. Downer. July 13.

CREBUS S. M. Co.—Inyo county. Capital stock, \$250,000; 500 shares; \$500 per share. Trustees: Almarin B. Paul, J. H. Atkinson and John Gillig. July 31.

ENTERPRISE G. & S. M. Co.—Meadow Lake, Nevada county. Capital stock, \$1,500,000; 6,000 shares; \$250 per share. Trustees: A. D. Land, J. De Bell, E. B. Mott, Jr., C. W. Young, and T. B. Storer. July 10.

FARMERS' FLOURING MILL ASSOCIATION.—City of San Francisco. Capital stock, \$75,000; number of shares, 750; \$100 per share. Trustees: S. W. Boring, H. N. Tierner, and J. B. Houghton. July 2.

PENINSULA PLANTATION AND HOMESTEAD ASSOCIATION.—Lower California and Mexico. Capital stock, \$48,000; 3,000 shares. Directors: Wm. M. Pierson, Wm. Corcoran, Jos. Healy, John H. O'Brien, John McNamara, E. Nuoan, and A. Lamott. July 3.

SOUTH POINT WAREHOUSE COMPANY.—City of San Francisco. Capital stock, \$200,000; 200 shares; \$1,000 per share. Trustees: S. P. Dewey, Henry Peirce, C. S. Hutchinson, Samuel Tyler, and Edwin Harris. July 9.

THE LEZ AND MONTEZUMA M. Co.—Kearsarge district. Capital stock, \$360,000; 3,600 shares; \$100 per share. Trustees: A. B. Paul, Irwin McDowell, and R. W. Kirkham. July 21.

NEW COUNTY.—The County of Inyo, established by the last Legislature, has just been organized and the county seat established, by a vote of the people at Independence, ten miles from Kearsarge. This county was taken off from Tulare and Mono counties by the last Legislature, and includes the whole of Owen's River Valley and Walker's Pass. The western boundary is the summit of the Sierra, and the eastern, the dividing line between Nevada and California; it is bounded on the south by San Bernardino County. We understand the citizens of the county are desirous of having a newspaper established there, and will give material aid to the enterprise, if any suitable person will undertake the same.

THE NEW MERCANTILE LIBRARY BUILDING, which will soon be erected on the lot next below Calvary Church, on Bush street, will be one of the finest library buildings in the United States. It will be four stories high, and of a similar style of architecture to the Cosmopolitan hotel.

STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the MINING AND SCIENTIFIC PRESS.

SEND US WORD.—If any subscriber to this journal fails to receive the same regularly and promptly, they will confer a favor by informing us at once.

New Mining Law Queries.

EDITORS PRESS:—Please answer the following queries:

1st. Am I right in supposing that a patent, once obtained from the Government, for mining claims protects me from forfeiture of that ground, by abandonment or by failure to comply with local laws after the patent is received; or in other words, will not, in all probability, a patent for mining grounds give me as absolute and irrevocable title as is conferred by the U. S. Patent for agricultural lands?

2d. Supposing a ledge on a west side hill to run north and south, facing west, and dipping east, and I locate 200 feet on said ledge, and make my north and south boundary lines at right angles with the face or croppings of the ledge, and claim all the dips, angles and spurs, without designating an eastern boundary; will not my location be in conformity with section 2d of the new law, and will not the "laternal dip" which I am allowed to follow by said law, be confined between the north and south lines, drawn at right angles, as mentioned above?

3d. Is not the writer in the Marysville Appeal laboring under misapprehensions of what is strictly termed "square claims," and would not the boundaries suggested in query 2d, be sufficiently square to accommodate the working of his system of chimneys?

Yours, truly, B. HONEST.

Answer to queries, and further discussion of the law may be expected in our next.

TOWNE & BACON, Print—
Stock Certificates,
Assessment Receipt Books,
Transfer Journals,
Circulars,
Hand Bills,
Cards,
Billheads,

And every kind of Job Work that may be desired.
A NEW ARTICLE OF TAGS FOR GROCERS' USE.
1612 536 Clay street, opposite Leidesdorff.

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—OUR—
MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

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IMPORTERS AND REFINERS

Illuminating, Lubricating,
—AND—
PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', HEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO,—
SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning oil.
A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand.
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V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery
OF ALL KINDS.

Special attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—
Governor F. F. Low; Coffey & Ralston, San Francisco;
C. T. Meader, Stockton; Geo. K. Ginyas, Chief Engineer of Cal. S. Nav. Co., San Francisco;
Jacob Underhill & Co., San Francisco;
J. W. Slove, Russell & Erwin Manufacturing Company; Office, No. 120 Front street, San Francisco. 4v12

It is filled with reliable, useful and interesting matter and to our miners who wish to understand the theoretical, as well as the practical part of their business, the MINING PRESS will be found an invaluable aid.—[Nye County News]

WHO KNOWS HOW TO BE RICH?—The Nation makes the following reply to this question, which contains a great deal of truth:

"Plenty of people know how to get money, but not very many know what is best to do with it. To be rich, properly, is indeed a fine art. It requires culture, imagination, and character. A man who should practice this art with success would be one of the greatest benefactors of his time. He might win a pure fame and leave an enduring example. To be rich is to be able to be magnanimous; to conceive and to execute large, splendid, and permanent designs. It is to be at ease and set others at ease. It is only the rich man who does not know how to be rich that finds it hard to enter the kingdom of heaven. The man who knows the art passes through even this life, to use one of the fine phrases of Marcus Aurelius, 'like one who has entrusted to the gods, with his whole soul, all that he has.' Suppose such a rich man to live in our time! 'Assuredly,' said Solon to Croesus, 'he who possesses great stores of richness is no nearer happiness than he who has what suffices for his daily needs,' but surely he has some means of happiness which the other does not possess."

Machinists and Foundries.

PALMER, KNOX & CO., Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S AMALGAMATOR AND SEPARATOR,

Tyler's Improved Water Wheel,

Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.

KNOX'S AMALGAMATORS, WITH PALMER'S PATENT STEAM CHEST,

Superior for working either Gold or Silver Ores.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver.

13v10q-4f



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No. 226 Fremont st., bet. Howard & Folson.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

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Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of

Marine and Stationary Engines:

Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Elder, Cotton and Tobacco Presses of the latest Improved Patterns.

Brodie's Improved Patent WIND BLAST SEPARATOR, for Dry Crushing; Baux & Guld's Amalgamator and Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston-Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

MACHINERY, OF ALL DESCRIPTIONS, Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.

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DEVORE, DINSMORE & CO

JOHN LOCHHEAD'S Steam Engine Works,

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STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES, PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.
The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San Francisco for the last forty years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular.

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Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Bag, Screw and Drop Presses, Colining Machinery, File Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS.—Locomotive, Flat, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Onrve Pan, Zenas Wheeler's Improved flat bottom pan, Beldin's pan, Veatch's tub, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH, IRVING M. SCOTT,
GEO. W. PRESCOTT.

H. J. BOOTH & CO.

Vulcan Iron Works Company

(ESTABLISHED 1850.)

First, Natoma and Fremont Streets.

IRON FOUNDERS, Steam Engine and Locomotive BUILDERS,

Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of new shops on Fremont Street, doubling the capacity of the original establishment. Their facilities for turning out machinery promptly and efficiently, are now unequalled in the State. Their Boiler Works have also been enlarged correspondingly.

The Company are prepared to execute orders for all classes of Machinery and Boiler Work, such as

Mining, Steamship, and Steamboat Machinery,

Railroad Machinery, Flouring Mills,

Locomotives, Quartz Mills,

Car Trucks, Sugar Mills,

Car Wheels, Saw Mills,

Housings and Irons; and

Manufacturing Machinery of Every Kind.

Sole Manufacturers of

HEPBURN & PETERSON'S REDUCING PAN AND AMALGAMATOR

DEATH'S AMALGAMATOR;

HESSE & MOORE'S IMPROVED HOWELL QUARTZ CRUSHER;

BAUX & GULD'S AMALGAMATOR AND SEPARATOR;

FAUCHER'S QUARTZ GRINDER AND WATER WHEEL;

JONVAL'S IMPROVED WATER WHEEL;

LEFFELS' AMERICAN DOUBLE TURBINE WATER WHEELS;

STEVEN'S PISTON PACKING RINGS.

They have also a large assortment of Patterns for Pumping and Hoisting Machinery, Gearing, Pulleys, Water Mill Irons, Hydraulic and Screw Presses, Retorts, Furnaces, Grate Bars, House Fronts, Ornamental Fence Posts and Paving, Stove Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best Hard Iron. Quartz Screens of Russia

Iron Punched to Order.

27

Pioneer Iron Works.

KITTREDGE & LEAVITT,

MANUFACTURERS OF

FIRE-PROOF DOORS AND SHUTTERS

Steel-Lined Bank Vaults and Safes,

PRISON CELLS, BALCONIES, AWNINGS,

Grating and Iron Fences; Stairs, Etc.

ALSO, AGENTS FOR

BUSSEY'S NEWLY PATENT COMBINATION

BURGLAR-PROOF LOCK,

No KEY, or visible signs of OPENING, &c.

Corner of Fremont and Market streets,

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Constantly on hand a large assortment of Second-Hand Fire-Proof Doors and Shutters.

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LEWIS COFFEY, J. S. MADON

LEWIS COFFEY & RISDON,

Steam Boiler & Sheet Iron Works.

THE only exclusively Dollar Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed to order, and warranted as to quality.

Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

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FLYNN & FRANCE,

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221 Mission street, below Beale, San Francisco, PRACTICAL IRON FOUNDERS, having unequalled facilities for the manufacture of LOCOMOTIVE CASINGS, particular attention will be given to this department. We manufacture School Seats and Desks, Agricultural Implements, Railing, Ship Castings, Stake Irons, and all other kinds of Heavy and Light Castings, with dispatch. The patronage of the public is respectfully solicited.

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HANSOM & CO.,

Southeast corner Fremont and Tehama streets,
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Practical Machinists and Iron Founders,

MANUFACTURE

STEAM ENGINES,

QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS,

Dunbar's Improved Self-Adjusting

PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSOM'S CRUSHER,

The best of the kind now in use in this State or anywhere else

Wheeler & Randall's New Grinder and

Amalgamator,

Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,

Giving greater power at lower cost than any wheel in use

Send for one of our circulars giving full details

All Wheels warranted to give the power as set forth, or the money will be refunded.

Sole makers for this coast of the "Pendergast

White Iron Stamp Shoes and Dies.

None genuine unless obtained from us. Every one warranted.

Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.

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Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Mining

Pumps, Amalgamators, and all kinds of

Machinery.

Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco.

8-qy

NEPTUNE IRON WORKS,

Corner of Mission and Fremont Streets,

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MARINE

Locomotive,

And all kinds of

HIGH PRESSURE

Steam Boilers

MADE.

All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.

All kinds of Sheet Iron and Water Pipe, Coal Oil

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Worms, etc., etc.

Manufactured to Order.

Old Boilers Repaired

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WILLIAMS, ROOT & NELSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

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Miners' Foundry

—AND—

MACHINE WORKS,

First St., between Howard and Folson Streets,

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EVERY description of Iron and Brass Machinery, the BEST and MOST ECONOMICAL, manufactured in the State of California, will be furnished with dispatch at the MINERS' FOUNDRY AND MACHINE WORKS, such as

Steam Engines and Boilers, Flour, Saw and Quartz Mills,

Machinery, Mining Pumps, Amalgamators,

Retorts, Etc., Etc.

Particular attention will be given to the manufacture of Machinery in Sections designed for places of difficult access. Various models of Quartz Crushers, Amalgamators and Water Wheels—some in operation and on exhibition.

* Parties desiring to test their ores practically, in small quantities, will be afforded ample facilities, FREE OF COST.

All parties desiring accurate and highly finished drawings and superior machinery, at moderate and reasonable rates, are cordially invited to call before contracting elsewhere.

HOWLAND, ANOEL & KING

M. GREENBERG, W. H. MOORE,

GREENBERG & MOORE,

Eagle Brass Foundry,

No. 43 First street, San Francisco,

(Between Mission and Market.)

MANUFACTURERS OF

all kinds of Brass and

and Bell Castings; Force

and Lift Pumps; Cocks

and Valves of every description made and repaired; Oil Globes, Steam

Whistles, Hydraulic Pipe

and Nozzles (for Mining purposes). Also,

COUPLINGS OF ALL

SIZES.

* Particular attention paid to Hydraulic Pipes and Nozzles; also, to Ship Work of all descriptions. All orders from the interior will be attended to with promptness and dispatch.

25v12-3m

GEORGE T. PRACY,

MACHINE WORKS,

Nos 103 and 111 Fremont street, near corner of Mission,

OPPOSITE MECHANICS' HILL,

SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL

And Quartz Machinery, Printing Presses,

—AND—

MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

* Special attention paid to Repairing.

8-qy-3

(Written for the Mining and Scientific Press.)

The Northern Mines.

EDITORS MINING AND SCIENTIFIC PRESS:—

As various exaggerated and ridiculous reports are being daily circulated in San Francisco and in the Eastern States, about the fabulous richness of our Idaho quartz mines, permit an old quartz miner, through the medium of your columns, to furnish a few facts and statistics which may help to expose these "canards," which have already done considerable injury to a country, portions of which it would be vain to deny possess gold and silver bearing lodes of considerable merit, and which, if properly developed, and the ore reduced by competent men, would in a short time pay fair dividends to the shareholders.

First of all, let us glance at Owyhee, with her numerous mines of gold, silver, and in fact every mineral substance known to the chemist. We hear occasionally of some shipments of bullion from that country. So far, so good. What dividends have ever been declared by any mining or mill company during the last three years? Only one, and that was from 100 tons of ore, taken from an extremely rich pocket in a mine known as the Poorman. The Oro Fino mine, which has furnished 99 per cent. of all the bullion shipped from that country, does not pay expenses. Many thousand tons of ore have been worked from this mine, and the owners are still in debt to the Morning Star Mill Company for its reduction. On the reputation of this mine alone, ten mills have been erected, chiefly by Eastern capitalists, on the representation of unprincipled speculators and agents. Of course, they have all proved failures; but Owyheans are not satisfied with quartz. A few pieces of crystallized quartz are found, and we hear of the "Diamond Mines" of Owyhee, destined to eclipse those of Golconda and Brazil. A piece of bitumen and the "coal mines" of Owyhee, are pronounced to be more extensive than those of Pennsylvania. A seam of "red hematite," and the "Cinnabar" mines of Owyhee are richer than those of Almaden, and so on.

Too much money has already been wasted on the "elephant" in Owyhee.

The Rocky Bar mines are situated about ninety miles in a northeasterly direction from Boise City; they have been worked about two years and a half, many of them having proved extremely rich in gold. A large amount of money was taken out by the pioneers of the camp, in anartras, some of the ore paying \$125 per ton, in gold; but the miners were not satisfied with these results, and they must have mills. Companies were organized in the East, and the mills arrived and were put up. What was the result? From three to ten dollars per ton by mill process!

The fault lies entirely with the superintendents. The machinery was got up in the States by men who had never seen a mine or a mill in their lives, and who were entirely ignorant of the first principles involved in the extraction of gold and silver. A small piece of copper in front of the battery was, by these persons, considered quite sufficient for the reduction of a very rebellious ore. It is needless to say that all these mills are failures, and stand idle. In the meantime, the anartras have fallen to pieces, and there are no means wherewith to build new ones.

About fifteen miles north of Rocky Bar, is the Middle Boise or Yuba district. This is destined to become the richest mining district north of Washoe. The ledges are numerous and well defined, some of them from sixteen feet to twenty feet in width. The natural advantages of the country are very great, the supply of timber being inexhaustible, and the mountains as heavily timbered as any portion of the Sierra Nevada. The water power is sufficient to run any number of stamps. There are already three quartz mills and a saw mill on the road for this district, of which Messrs. Baker and Defrees are the proprietors. These gentlemen, who are thorough metallurgists and millmen, have closely examined the Yuba mines, and express themselves fully convinced of their richness. Several other scientific and practical men from San Francisco, have lately visited these mines. Among others, I may mention Col. O'Neill, Mr. Bryant and Mr. Woods. They all predict a glorious future for the Yuba or middle Boise district. In a future letter, I will describe the other quartz camps of Idaho, all of which I have visited on my northern tour.

WASHOE.

Rocky Bar, Alturas Co., Idaho Terr., July 12, 1866.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Oreno Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

Metallurgy.

G. KUSTEL,

Metallurgist and Mining Engineer,

Stevenson House, corner Montgomery and California sts.

Ores Analyzed,

Advice given, and Plans furnished for working of different

Ores. Mines examined and reported upon.

20v11 3m

BOALT & STETEFELDT,

Metallurgists and Mining Engineers

AUSTIN, NEVADA.

Western Branch of ADELBERG & RAYMOND, No. 90

Broadway, New York.

11v11

G. W. MAYNARD, J. H. TIEMANN,

MAYNARD & TIEMANN,

Mining Engineers and Metallurgists,

240 Pearl Street, New York,

—AND—

CENTRAL CITY, COLORADO.

18v12 1y

Copper, Lead, Gold, Silver,

Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,

Agent for Townsend Wood & Co., Swansea,

No. 415 Montgomery Street, San Francisco.

Special attention paid to Gold Bearing Sulphurets. &c.

15v10 3m

Copper Ore! Copper Ore!

BOUGHT BY

CONROY & O'CONNOR,

Front, near Pine street, San Francisco.

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To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Russell for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to JOHN N. RUSSELL, At Coffey & Riddell's, San Francisco.

21v12

MARTIN & CO.,

Office, Stevenson House,

Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE

PURCHASE OF COPPER ORES,

Assaying eight per cent. and upwards of Copper to the

We will make advances upon Ores of Copper.

San Francisco, Post Office Box 1259.

22

Important to Californians.—Many inventors have

ately had their claims for Patents seriously (and in some

cases fatally) delayed by the unqualification of agents who

have not complied with the Government laws and revenue

laws, as well as other new and imperative regulations.

These discrepancies, although arising from the inexperience

of honest agents, are none the less dangerous to applicants

for patents, whose safest course is to trust their business

with none but active and experienced solicitors. The Mining

and Scientific Press Patent Agency has strictly complied

with the requisitions of the Department, and properly

filed all necessary papers as Claim Agents.

EUROPEAN

METALLURGICAL WORKS,

—AND—

Practical Mining School,

Bryant Street, Between Third and Fourth,

SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphurets, pyrites, and the so-called "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

S. F. KIMBALL, J. R. MURPHY,

10v10

PACIFIC CHEMICAL WORKS

—AND—

ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEM-

selves for the purpose of carrying on the business of

Manufacturing Chemicals,

Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FALKENAU & HANKS,

Laboratory, corner Polson and Center streets,

Mission Dolores

Office, 629 Washington street, San Francisco. 21v12-1m

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN

ASSAYERS' MATERIALS,

Druggists' & Chemists' Glassware,

Photographic Stock, Etc.

512 and 514 Washington Street,

SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERT

LING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern

States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE

CASES, GOLD SCALES, CHEMICAL GLASSWARE, and

every article required for ASSAY OFFICES, LABORATO-

RIES, etc. We have given this branch of our business par-

ticular attention, to select such articles as are necessary

in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and

DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.

San Francisco March 6, 1865.

11v10-1f

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KENDRY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents.

21v12

F. E. WEYGANT, Proprietor.

INTERNATIONAL HOT L.
K Street, between Third and Fourth,
SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-two Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and airy. No expense has been saved to make it comfortable and pleasant for guests.

Price of Rooms very low. Meals, 25 cents.

21v12-1m

B. EISENBERGER.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals, 25 cents.

Board, per week, \$1.00.

Board and Lodging, per day, 75 cents.

Single Rooms, 50 cents.

Railroad Ticket Office and Stage Office on first floor.

7v12-3m

A. J. SENATZ, Proprietor.

California Steam Navigation

COMPANY.

Steamer CAPITAL, CAPT. E. A. POOLE.

" CHRYSOPELIS, CAPT. A. FOSTER.

" YONEMITE, CAPT. E. CONCKLIN.

" JONNELIA, CAPT. W. BROMLEY.

One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for

Sacramento and Stockton, connecting with light draft

steamers for Marysville, Colusa, Chico, and Red Bluff.

Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA,

ACTIVE and SENATOR, leave, as advertised, for Honolulu,

Portland, Oregon, New Westminster, British Columbia,

Victoria, V. I., Santa Barbara, San Pedro, and San Diego.

Office of the Company, northeast corner of Front and

Jackson streets.

B. M. HARTSHORNE,

President.

13v12

Rheumatism!!

READ IT! READ IT!!

SACRAMENTO, April 16th, 1866.

H. BOWMAN—DEAR SIR: THIS IS THE FIRST WRIT-

ing I have done in two years, and it affords me great

pleasure to be able to use my pen in the service of those who

are suffering, as I have suffered, by stating the following

facts:

I have for two years and upwards been afflicted with

CHRONIC RHEUMATISM, and until a few weeks ago I

have never found anything that afforded me any relief.

For three months of the time I was unable to feed myself,

and for the last five months my arms have been so bent

that I have not been able to dress myself. I was five months

at the Warm Springs, at San Luis Obispo, and three months

at a Hydropathic Institute in Stockton, and I have been

under the care of six different physicians in the vain hope

of relief. About six weeks ago I was cured by a person

who had been cured by it to try a bottle of RICHARD'S

REMEDY FOR RHEUMATISM, and in less than twelve

hours I experienced great relief. In a few days I was

enabled to straighten out my arms, and I have been, eating

better and gaining in strength and flesh ever since. I have

now the complete use of all my limbs, and, for the first

time in two years, I am out of pain. I feel for those

who suffer as I have suffered, and if they will take my

advice, they will lose no time in giving the REMEDY A TRIAL.

Yours truly,

GEORGE TAYLOR.

RICHARD'S REMEDY is for sale by

H. BOWMAN,

Druggist, Sacramento.

Price, \$2.50 per Bottle.

21v12

A Rare Chance!

A Splendid Business in Alameda County.

FOR SALE AT A GREAT BARGAIN,

400 ACRES OF LAND,

INCLUDING

Landing, Wharf, Three Capacious

Warehouses,

Capable of holding 12,000 Tons, which amount of grain

was stored and shipped the past year. Connected with

said business there is an extensive Lumber Yard; sales

during last year, two million feet, which sales, and the

entire business, can be largely increased.

The above is a rare opportunity for parties desirous of

engaging in an active business that will pay a large dividend

on the investment. Satisfactory reasons given for

selling, and all information desired can be obtained on ap-

plication by mail, or otherwise, to

G. E. SMITH,

Notary Public and Searcher of Records, Office "Beatty

House," San Leandro.

23v12 m

Capitalists, Attention!

QUARTZ MILL & MINING PROPERTY

FOR SALE

In Nevada County.

A NEW 8-STAMP QUARTZ MILL, 7 LEDGES AND 640

acres heavily-timbered Land, near Eureka, Nevada

County, are now offered for sale. The Mill is run by

steam power, and is in complete order for business. The

ledges, which form the principal vein of this property, are

all large and well-defined, but require a further outlay of

capital, in order to make them remunerative. For the lack

of means to properly develop these claims, the present own-

ers are disposed to sell the same for a reasonable price.

Capitalists wishing to engage in mining will find this a

splendid opportunity to purchase a property that will bear

right scrutiny, and offers superior inducements as an in-

vestment.

For address and further information, Inquire of the Pub-

lishers of the Mining and Scientific Press, 505 Clay

Street, San Francisco.

22v12

The Press is a large, sixteen-page paper, and is truly a

valuable assistant to the mining interests of the Pacific

Coast.—[Nye County News.]

Professional Cards.

FREDERICK MANSELL.

Mechanical & Architectural Draughtsman,
No. 422 California street, corner of Leidsdorff.

Drawings of Models made for parties applying for patents at Washington or London. mar23-tf.

JAMES M. TAYLOR,

Attorney and Counsellor at Law,
COURT COMMISSIONER, appointed by the Fourth District Court, COMMISSIONER OF DEEDS for Nevada and Massachusetts,
Court Block, San Francisco.

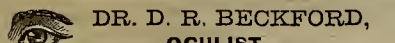
Entrances opposite City Hall, Merchant street, and 636 14th St. Clay street.

DR. H. AUSTIN,



DENTIST,

No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER SAN FRANCISCO BATHS]
SAN FRANCISCO. 20v10-4y



DR. D. R. BECKFORD,

OCULIST,

Office of Dr. Beckford's "Golden Eye Water,"
16v12-3m NO. 719 CLAY STREET.

AUGUST KUNAST,

Stock Broker,

Member of the
San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
Office, No. 540 Washington Street, San Francisco. 2v10

WILLIAM P. BLAKE,

MINING ENGINEER,

Will make Surveys and Examinations of Mines, or give advice regarding their working, the erection of Machinery, etc.
Office at Union Iron Works, corner of First and Mission streets, or Lock Box 2,077 Post Office, San Francisco. 11v22-4y

GEORGE H. BAKER,

Lithographer & Engraver,
No. 522 Montgomery St., San Francisco.
MINING STOCK CERTIFICATES LITHOGRAPHED IN MOST ARTISTIC STYLE, CALL AND EXAMINE SPECIMENS.
10v8-tf

SHERMAN DAY,

Mining Engineer,

No. 57 Montgomery Block, San Francisco,
Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines.
22-4

ANNUAL REPORT

-OF THE-

Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 22, 1880, the Pacific Insurance Company of San Francisco makes the following Annual Report:

- I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD.....\$750,000
- II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS...\$1,051,420.37
- III.—The Company has NO LIABILITIES.
- IV.—The amount of insurance effected during the year, and which remained in force December 31, 1885:
 - Fire.....\$12,973,949
 - Marine.....48,408
 - This Company commenced underwriting Marine Risks, August 1, 1885:
- V.—This Company insures against the following risks, viz.: BUILDINGS, HOUSEHOLD FURNITURE, CARGOES, CHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.
- Also, on CARGOES, TREASURES, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL MARINE AND INLAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.
- VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

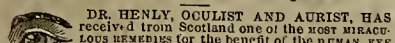
J. H. HUNT, President.

San Francisco, January 19, 1886.
A. J. RALSTON, Secretary.

Louis McLane,	Edward Martin,	A. Hynward,
W. C. Ralston,	Chas. Mayne,	Alex. Weill,
A. L. Tubbs,	Moses Ellis,	C. Meyer,
William Alvord,	E. L. Goldstein,	J. D. Fry,
Frederick Billings,	Wm. T. Coleman,	M. Rosenbaum,
Jonathan Hunt,	John O. Earl,	H. H. Bicegoli,
A. B. Forbes,	Lloyd Tevis,	T. Lemmon Meyer,
Anson G. Stiles,	Oeo. W. Beaver,	Edgar Mills,
Abm. Seligman,	Adam Graham,	G. W. Mow,
W. B. Bencley,	Alpheus Bull,	C. T. Wheeler,
Sam. Sherman,	S. M. Wilson,	William Schelle,
L. Sachs,	D. J. Oliver,	H. Jewett,
John G. Premery,	Morton O'Connell,	T. R. Anthony,
John B. Newton,	H. Hansmann,	W. S. Laid,
David Stern,	J. W. C. Rice,	Jacob Kamm,
D. O. Mills,	Oliver Eldridge,	Wm. Shanon,
G. G. Kellogg,	E. W. Leonard,	
J. H. Howard,	S. Steinhardt,	
Moses Heller,	P. L. Weaver,	
H. M. Newhall,	Wm. Hooper,	
G. T. Lawton,	Allred Borel,	

State of California, City and County of San Francisco, ss.
On this nineteenth day of January, A. D. one thousand eight hundred and eighty-six, personally appeared before me H. S. Homans, a Notary Public, in and for the said City and County, and these residing in said City and County, and known to me to be the persons whose names are subscribed to the foregoing report of the Pacific Insurance Company, and who are true, full and correct.
Sworn and subscribed to before me, this 19th day of January, A. D. 1886.
H. S. HOMANS, Notary Public.
5v13-tf

Eyes! Eyes!! Eyes!!!



DR. HENLY, OCULIST AND AURIST, HAS received from Scotland one of the most successful REMEDIES for the benefit of the HUMAN EYE ever before discovered. It is unparalleled in its effects upon the disease incident to this organ. It gives wonderful power to the optic nerve, and all the granulations from the lids, and all mucous film from the sclerotic coat without the use of instruments. In fact, it works like a charm on the Eye, without giving any pain. You feel the effect of the medicine in different parts of the head. It drives the disease back into the system, which is better able to stand it than this tender organ.
Persons who have been blind for ten years have been restored to their sight in a short time by the use of this medicine. I will treat any person's eyes in the State, and if I do not give them relief in a short time, I will not charge them anything. Office, No. 731 CLAY STREET, opposite the Plaza, San Francisco. 22-v12

City College Laboratories,

Southeast Cor. Stockton and Geary sts.

Practical and Analytical Chemistry and Metallurgy.

THOMAS PRICE,

Professor of Chemistry,

(Formerly of the Normal College, Swansea.)

WILL GIVE PRACTICAL INSTRUCTIONS IN QUALITATIVE AND QUANTITATIVE ANALYSIS AND ASSAYING. The course qualifies students for the application of Chemistry to METALLURGY, MANUFACTURING ARTS, and MINING PURPOSES.

PHARMACEUTICAL and TECHNICAL CHEMISTRY, such as is required by Medical and Pharmaceutical Students, will be taught to such students as may require it.

Course of General Chemistry.

Evening Lectures will be delivered every Tuesday, at half-past seven o'clock, P. M., in the Philosophical Hall of the College, without extra charge to the students in the Institution.

On and after the 14th of February, the Laboratories will be open every day, except Sundays, from 8 A. M. to 5 P. M. For further particulars, address

REV. P. V. VEEDER,

Principal of the City College.

Or at 406 California Street.

YOUNG MEN WANTED!

Pacific Business College!

751 Market street, between Third and Fourth,
SAN FRANCISCO.

AN INSTITUTION DESIGNED TO PREPARE YOUNG and middle-aged men for an active and successful business life.

BOOK-KEEPING, PENMANSHIP, COMMERCIAL LAW, COMMERCIAL ARITHMETIC, CORRESPONDENCE, MODERN LANGUAGES, Etc.,

Practically taught.

This College forms a link of the

American Chain of Commercial Colleges,

Located in the principal cities of the United States, and is the only institution on the Pacific coast conducted on actual BUSINESS PRINCIPLES.

Regular Banks and Business Offices have been Introduced.

By which we are enabled to fit out Students in the BEST POSSIBLE MANNER, and at the LEAST EXPENSE of time and money, for the practical duties of the Counting House.

Students can enter at any time of the year, there being no vacations. Each student receives individual instruction, with the exception of Lectures and other general exercises.

The College Review.

Giving full particulars of the College, can be had FREE, by calling at the College, or addressing

E. P. HEALD,

3v13 President Business College, San Francisco.

SAN JOSE INSTITUTE

-AND-

Commercial College,

SAN JOSE,

Santa Clara County, California.

THE NINTH SESSION WILL COMMENCE ON THURSDAY, July 26th, 1886.

A new, practical and complete Business Course has been adopted, differing from that of any other School in the State. We call the especial attention of Business Men, or those wishing to give their sons a thorough, practical Business Education, to this fact, and request them to send for a Circular before deciding what School they will patronize. Ample accommodations for boarders in the Seminary. Ornamentals, Music, Ancient and Modern Languages taught.

Special arrangements have been made for boys between the ages of ten and eighteen.

For further particulars or Circular, address
FREEMAN GATES, Principal.

Or, GEO. E. HOUGHTON, Prin. Com. Dept. 1v13-tf

SACRAMENTO SEMINARY.

-AND-

BOARDING SCHOOL

FOR YOUNG LADIES,

Tenth Street, between F and G.

SACRAMENTO, CAL.

Session commenced January 8, 1886.

MR. AND MRS. HERMON PERRY,
7v12-tf Principals.

SANTA CLARA COLLEGE, S. J.,

SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SIXTEENTH ANNUAL SESSION of this College will commence on

Monday, August 20th, 1886.

TERMS.—Tuition in the Classical and Scientific Department; Boarding and Lodging; Washing and Mending of articles washed; School Stationery; Medical Attendance and Medicine; fuel, light, baths, etc., per session of ten months.....\$350

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

REV. A. MARASCHI, S. J., President.
3v11-4v12

Commercial Academy for Ladies & Gentlemen

No. 111 K STREET, SACRAMENTO, CALIFORNIA.
Established in 1853, where students can acquire a thorough business education. Double Entry Book Keeping, Practical and Ornamental Penmanship and Drawing, Latin, French, the Common and Higher English Branches, taught on reasonable terms. Students from any part of the State can procure board and lodging in private families, near the Academy, at \$4 to \$5 per week. For terms, address, MART TAYLOR, Principal; Miss SARAH J. WEIR, Associate Principal. 20v12

PREMIUMS.

1st Premium, at Sacramento Fair.....1862

1st Premium, at S. F. Bay District.....1862

1st Premium at Sacramento.....1863

1st Premium, at San Francisco.....1864

1st Premium, for Cordials.....1864

1st Premium, for Hygienic Bitters.....1864

Awarded to

V. SQUARZA.

New Mining Advertisements.

Antioch Premium Petroleum Company,

Antioch, Contra Costa County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-ninth day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Tony Tuttle	25, 25	10	\$20 00
Geo W McCoy	74	10	hal 10 00
Frederick Niskindning	27	3	6 00
D B Northrop	83, 84	6	10 00
J O Carter, 19, 20, 58, 59, 113	128, 127, 129	35	hal 22 18
Russell Eddy	17, 18	5	10 00
G H Scammon	85, 86	5	10 00
M J Chase	99	3	6 00
B B Gore 52, 53, 54, 55, 58, 57	68, 69, 61, 52, 53, 65	50	100 00
	111, 132		

And in accordance with law, and an order of the Board of Trustees, made on the twenty-ninth day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, corner of Pacific and Battery streets, San Francisco, on the twenty-ninth day of August, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. B. GORE, Secretary.

Office, corner Pacific and Battery streets, San Francisco, Cal. au4

Assurance Mining Company, Occidental

Lode, San Benito Mining District, County of Monterey, State of California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
W F Brandreth	2 and 18	10 ea	\$10 00
W F Brandreth	20	5	2 50
W F Brandreth	28	30	15 00
O C Wheeler	27	150	75 00
Wm Leffingwell	21	150	75 00
Wm Leffingwell	22	30	15 00
E A Forrester	15	24	12 00
A J Weaver	8	30	15 00
Levi Gish	14	6	3 00
Wm M Whitney	25	150	75 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., No. 418 Montgomery street, San Francisco, Cal., on the twentieth day of August, 1886, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expense of sale.

H. H. RUSSELL, Secretary.

Office, 302 Montgomery street, Room No. 4, San Francisco, Cal. au4

"Arbitrios" Mining Company, Batopilas

District, State of Chihuahua, Mexico.

NOTICE.—There are delinquent upon the following described stock, on account of assessment (No. 10) levied on the 28th day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Mrs Harriet W Hendley	12	10	\$18 00
Mrs Harriet W Hendley	131	3	4 50
A C Hendley	13	15	21 50
A C Hendley	143	10	15 00
A C Hendley	145	5	7 50
A C Hendley	150	35	52 50
A C Hendley	182	23	39 00
Mrs D D Shattuck	14	10	15 00
Mrs D D Shattuck	183	3	4 50
Chas F Schulze	67	5	7 50
Chas F Schulze	58	5	7 50
Chas F Schulze	60	25	37 50
Chas F Schulze	202	9	13 50
R R Stoddard	98	3	4 50
R R Stoddard	197	1	1 50
R R Stoddard	221	10	15 00
Wm Gildemeister	155	5	7 50
Wm Gildemeister	130	10	15 00
Wm Gildemeister	153	15	22 50
Wm Gildemeister	173	8	12 00
Wm Gildemeister	217	20	30 00
Wm Gildemeister	228	20	30 00
Wm Gildemeister	229	10	15 00
Wm Gildemeister	234	4	6 00
Wm Gildemeister	235	65	97 50
Thos A Hughes	158	25	37 50
Chas F Brown	208	6	9 00
Chas F Brown	209	4	6 00
Chas F Brown	212	5	7 50
Chas F Brown	218	10	15 00
Chas F Brown	219	4	6 00
J N Willard	243	25	37 50
F Thomas	246	121	181 50
F Thomas	247	13	19 50
F Thomas	248	15	22 50
F Thomas	249	10	15 00
F Thomas	250	13	19 50

Total.....584 \$875 00

And in accordance with law, and an order of the Board of Trustees, made on the 28th day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Munroe Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the 13th day of August, 1886, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. MARTINON, Secretary.

Office, 811 Montgomery street, up-stairs, San Francisco, California. jy28

POSTPONEMENT.—The above sale is hereby postponed until Saturday, 26th August, 1886, at the same hour and place. By order of the Board of Trustees.

A. MARTINON, Secretary.

Auction House.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 418 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland. etf

Arizona Consolidated Mining Company,

Eureka District, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the third day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John N Elliot	279	46 1/2	\$22 76
Stephen J Slade	271	2	1 00
S Schmitz	202, 260	7	3 50
Stephen Otis	169	150	75 00
George L Lewis	33	23	14 00
Thomas Hopkins	54	50	25 00
M Short	203	3 1/2	2 25
Geo Shilliber	180	20	10 00
Frank Clark	130	2	1 00
R H Walter	163, 253	84	42 00
John J Scotchlor	160	5	2 50
J O Mitchell	131	6	2 50
Mrs C S Otis	197	5	2 50
J B Lynde	273	25	12 50
Mary A Duncan	215	10	5 00
Jas B Moore	265	100	50 00
J Q Adams	59	5	2 50
Eva Lange	100	5	2 50
Kalina Lange	99	5	2 50
Elizabeth Lange	98	5	2 50
John Dennis	76, 199	25	12 50
Joseph Clark	77	35	17 50
Z B Heywood	250	38 1/2	193 75
M Nolan	228	10	5 00
G F Ryland	82	20	10 00
J H Miller	173	5	2 50
R Stothard	81	5	2 50
Mrs S Chapman	80	5	2 50

And in accordance with law, and an order of the Board of Trustees, made on the third day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the saleroom of Messrs. Olney & Co., 418 Montgomery street, on the twentieth day of August, 1886, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CEO. W. BUNNELL, Secretary.</

Lady Bell Copper Mining Company, Low D.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of August, 1886, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 311 Market street, San Francisco, or to U. W. Russell, President City.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

C. HEYWOOD, Secretary.
Office, 311 Market street, San Francisco, Cal. a94

North America Tin Mining Company.

Location of Works: Durango, Mexico.
Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Bell, G. W., Estate of	57, 15, 101	140	\$56 00
Beyea, J. L.	89, 90, 91	80	34 40
Brown, E. P.	165	25	10 00
Christensen, C.	95	8	3 20
Dunnele, J. W.	8	100	40 00
Fox, J. W.	99	100	40 00
Hansen, J. S.	174	200	80 00
Proctor, John	88	3	1 10
Simmons, G. L.	71, 140	8	3 20
Washburn, E. H.	112, 143	300	120 00
White, Robt. N.	115	10	4 00
Miller, J. E.	101	50	20 00

And in accordance with law, and an order of the Board of Trustees, made on the 21st day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 413 Montgomery street, San Francisco, on the 19th day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. THORNE, Secretary.
Office, Room No. 7, at 535 Clay street, San Francisco. a94

San Marcel Silver Mining Company.—Location of Works: San Marcel, District of Hermosillo, State of Sonora, Mex.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-seventh day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cabellero, Augusto	14	3	\$ 1 50
Carls, H. K.	136	5	2 50
Godard, P. R.	265	10	5 00
Hicks & Co., Herman	264	10	5 00
Lansing, James	202	20	10 00
Lansing, James	310	3	1 50
Murphy, S. S.	92	500	250 00
Murphy, S. S.	94	100	50 00
Murphy, S. S.	165	50	25 00
Murphy, S. S.	203	5	2 50
Murphy, S. S.	289	100	50 00
Murphy, S. S.	319	40	20 00
Murphy, S. S.	320	25	12 50
McDonald, M. L.	308	10	5 00
Meyer, T. Lemmen, Trustee	323	815	407 50
Meyer, T. Lemmen, Trustee	338	62	26 00
Person, J. B.	274	5	2 50
Rountree, B. F.	42	500	250 00
Rountree, B. F.	44	90	45 00
Rountree, B. F.	235	300	150 00
Tinnin, W. W.	45	600	300 00
Tinnin, W. W.	40	200	100 00
Tinnin, W. W.	47	100	50 00
Tinnin, W. W.	160	47	23 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty-seventh day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at the auction rooms of Maurice Dore & Co., 327 Montgomery street, San Francisco, Cal., on the twenty-second day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary.
Office, 321 Montgomery Street, San Francisco. a94

Mining Notices—Continued.**Coahuila Gold, and Silver Mining Company, Sinaloa, Mexico.**

Notice is hereby given, that a Special Meeting of the stockholders of the Coahuila Gold and Silver Mining Company, will be held at the Company's office, Room 3, second floor, No. 505 Montgomery street, San Francisco, on SATURDAY, the 25th day of August, 1886, at 10 o'clock A. M., at which a full representation of the capital stock is requested. By order of the Board of Trustees.

T. W. COLBURN, Secretary.

Cortez Gold and Silver Mining Company.

Location of Works: Cortez District, Lauder County, State of Nevada.

Notice is hereby given, that the Annual Meeting of the Stockholders of the above-named Company, will be held on FRIDAY, the tenth day of August next, 1886, at 3 o'clock P. M., at the office of the Company, for the election of Trustees to serve the ensuing year, and for the transaction of other business.

R. N. VAN BRUNT, Secretary.
Office, No. 331 Montgomery street, San Francisco, Cal. jyl4

Cordillera Gold and Silver Mining Company, Chihuahua, Morelos Mining District, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1886, an assessment (No. 7) of one dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, No. 321 Washington street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirtieth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. R. REED, Secretary.
Office, 321 Washington street, San Francisco, Cal., near Front.

N. B.—Until further notice, all advertisements of this Company will appear in the Mining and Scientific Press.
San Francisco, Cal., July 19th, 1886. jyl2

Dianna Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the seventh day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allen, H. H.	236	3	\$15 00
Allman, Jno	304	7	35 00
Allmon, Jno	305	6	30 00
Bosteman, J. C.	211	4	20 00
Blideman, F. G.	333	17 1/2	83 75
Cutter, H. F.	14	21	105 00
Cutter, H. F.	20	10	50 00
Cutter, H. F.	218	10	50 00
Camp, Jaa	330	10	50 00
Dawley, Jas M & Co	101	5	25 00
Dawley, Jas M & Co	162	5	25 00
Dawley, Jas M & Co	164	10	50 00
Light, C. H.	2	6 1/2	31 25
Lindenberger, T. E.	112	3	15 00
Lindenberger, T. E.	157	2	10 00
Ladd, C. J.	115	10	50 00
Neyman, H. J.	334	1	5 00
Waterman, E. R.	38	2	10 00
Welch, G. W.	200	10	50 00

And in accordance with law and an order of the Board of Trustees, made on the seventh day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Messrs. Jones & Bendish, on Friday, the tenth day of August, 1886, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary.
Office, 402 Front street, San Francisco. Cal. jyl2

Del Norte Comstock Company.—Location: Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of July, 1886, an assessment of one dollar and forty-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 331 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary.
Office, 331 Montgomery street, San Francisco, Cal. jyl2

Eagle Quartz Mining Company.—Location of Works: Amador County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh (11th) day of July, 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 10 Exchange Building (13th Montgomery street), San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the thirtieth (30th) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN M. BURNETT, Secretary.
Office, No. 10 Exchange Building, San Francisco, California. jyl4

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second (2d) day of July, A. D. 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States of America, to the Secretary, of the office of the Company, No. 302 Montgomery street, between the hours of 5 P. M. and 6 P. M.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the twenty-seventh (27th) day of August, A. D. 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.
Office, No. 302 Montgomery street, San Francisco. jyl7

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 26th day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adams, C. P.	174	5	\$7 50
Bowland, Wm	241	5	7 50
Boggs, Geo W	137	6	9 00
Boggs, A. G.	177	11	16 50
Christensen, Philip	175	10	22 50
Christianson, Philip	176	10	22 50
Cook, A. J.	93	10	15 00
Clark, J. Warren	not issued	10	15 00
Clark, Miriam	124	25	37 50
Chobson, Margaret	298	2	3 00
Custer, John	378	5	7 50
Conn, M. R.	99	10	15 00
Grishby, T. L.	99	10	15 00
Grishby, R. F.	169	10	15 00
Grishby, A. D.	100	10	15 00
Grishby, R. D.	79	10	15 00
Kalher, Chas	90	15	22 50
Linn, Geo	263	10	15 00
Mosher, Wm H	19	5	7 50
Mosher, Wm H	165	10	15 00
Miller, J. E.	305	2	3 00
Pearson, I. N.	212, 213 5-ca	10	15 00
Phillips, W. L.	92	15	22 50
Phillips, W. L.	275	10	15 00
Rusley, J. B.	108	4	6 00
Rusley, J. B.	177	10	15 00
Seidman, John W	173	14	21 00
Sloan, H. H.	280, 200 10-ca	20	30 00
Sloan, H. H.	326	6	9 00
Vick, J.	285	10	15 00
Vick, J.	283	5	7 50
Whitton M. S.	185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196 10-ca	120	180 00
Whitton, Wm T.	214	10	15 00
Whitton, C. J.	290	5	7 50
Ward, Norah	297	3	4 50
Wittram, Charles	317	10	15 00

And in accordance with law and an order of the Board of Trustees made on the 26th day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Messrs. Olney & Co., at No. 413 Montgomery street, San Francisco, Cal., on the 13th day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. D. ROOT, Secretary.
Office, 338 Montgomery street, San Francisco. jyl2

Lady of the Lake Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 20th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the twenty-first day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 2d day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 10th day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLIS, Secretary.
Office, No. 302 Montgomery Street, Room No. 2, third floor, San Francisco, Cal.

N. B.—By resolution of the Board of Trustees, it was ordered that a discount of three per cent. be allowed on all payments made prior to August 2d, 1886.

WM. HOLLIS, Secretary.

Leland Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given that at a meeting of the Board of Trustees of said Company, held on the 20th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the 21st day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 22d day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 19th day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLIS, Secretary.
Office, No. 302 Montgomery street, Room No. 2, third floor, San Francisco, Cal.

N. B.—By resolution of the Board of Trustees, it was ordered that a discount of three per cent. be allowed on all payments made prior to August 2d, 1886.

WM. HOLLIS, Secretary.

Lady Bryn Gold and Silver Mining Company.—Location of Works: Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of July, 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, 323 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the eleventh day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. O. HOWARD, Secretary.
Office, 323 Montgomery street, San Francisco. jyl2

Nuestra Señora de Guadalupe Silver Mining Company, Taylito District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 25th day of June, 1886, an assessment, No. 24, of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. PEIFFER, at the office, No. 210 Post street, or to the Treasurer, A. HUMPHREY, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the 31st day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the 18th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

K. J. PEIFFER, Secretary.
Office, 210 Post street, San Francisco, Cal. jyl3

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Monday, the 27th day of August, 1886, and the sale thereof until Monday, the 17th day of September, 1886. By order of the Board of Trustees.

E. J. PEIFFER, Secretary.

Sweet Vengeance Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Barroilhet, H.	36 and 479	10-ca	\$20 00
Barroilhet, H.	476	15	15 00
Brown, Thos	171	10	10 00
Brown, Wm H	154 and 183	5-ca	10 00
Brown, Geo	439	10	10 00
Beat, Ed. F.	164	10	10 00
Bayerque, J. B.	142	100	100 00
Brungs, F.	101	5	5 00
Brungs, F.	236	4	4 00
Bondel, H.	239 and 274	10-ca	20 00
Bondel, H.	617	40	40 00
Bondel, H.	654	30	30 00
Crevdin, F.	83	20	20 00
Casselli, A.	182	100	100 00
Drothman, W. T.	181	15	15 00
Drothman, W. T.	275	10	10 00
Drothman, W. T.	482	120	120 00
Danzel, E.	618	25	25 00
Edin, H. and Edinger, P.	382	35	35 00
Graham, Wm H.	684	7	7 00
Kirch, Jos	504	3	3 00
Loshe, J. F.	48	10	10 00
Loshe, J. F.	292	5	5 00
Loshe, J. F.	294	45	45 00
Lulofs, E.	424 and 425	15-ca	30 00
Michaelson, H.	175	5	5 00
Michaelson, H.	284	9	9 00
Moses, E.	601	100	100 00
Manbee, H.	592	200	200 00
Pavillier, A.	569	100	100 00
Pavillier, A.	588	100	100 00
Polnik, J.	107, 155, 209	5-ca	20 00
Sabio, A. E.	600	200	200 00
Seidentopf, C.	104	10	10 00
Seidentopf, C.	161	5	5 00
Seidentopf, C.	192	5	5 00
S. Idried, H. A.	553	4	4 00
Thyarks, H.	159 and 160	15-ca	30 00
Thyarks, H.	130	10	10 00
Thyarks, H.	211	50	50 00
Taylor, Thos	587	100	100 00
Thyarks, H.	273	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 413 Montgomery street, San Francisco, on the fifteenth day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

F. S. SPRING, Secretary.
Office, No. 705 Sansome street, San Francisco. jyl2

Our Circulation.—THE MINING AND SCIENTIFIC PRESS has a large and permanent subscription list, and enjoys a more universal circulation among stockholders and persons directly interested in mining than any other paper on this coast.

Scott Mining and Exploring Company.—Location of Mines, etc., in Humboldt County, State of Nevada.

Notice is hereby given, that at

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Miller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and O, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective millers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the miller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

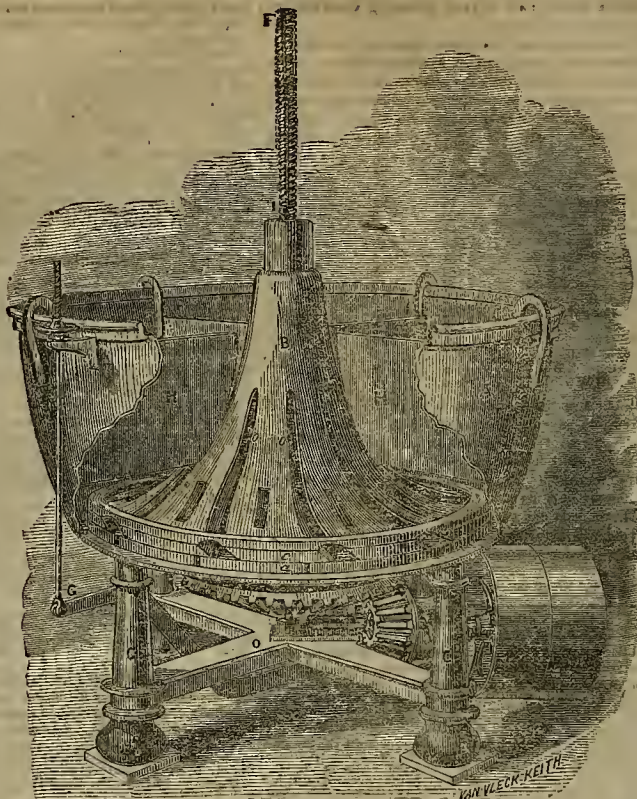
Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,
WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the miller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
171 San Francisco.

IRON!

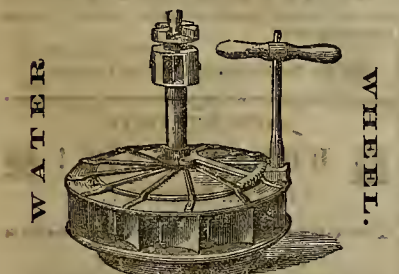
Glasgow Iron and Metal

IMPORTING COMPANY,
Nos. 25 and 27 Fremont street, San Francisco,
Keep constantly on hand a large assortment of

Bar Iron,
Boiler Tubes,
Anvils,
Cast Steel, Etc.,
Which they offer to the trade on liberal terms. 18v12-3m

LEFFEL'S

American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 feet of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in rivers, creeks or cisterns, what fall you have, and what power you require. Write or send for circular to
KNAPP & GRANT,
—ALSO—
San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by
KNAPP & GRANT,
San Francisco.

BAUX & GUIOD'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1864, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Superior Knowledge with Practical Experience, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIOD'S Pan, are the following: The trifling cost for attendance; Its small cost; Its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping, as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the trifling power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jeffersonian Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Crall's Gravel Cement Works, Nevada county; Waltham's Chlorination Works, Nevada, Cal.; Gold Hill Quartz Mill, Washoe.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hough & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address
J. B. BAUX,
Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 4v8-6d1

Cotton-Filled Gum Belting,

3, 4, and 5-Ply,

FROM 4 TO 22-INCH,

IN LIBERAL SUPPLY.

FOR SALE BY

GILLIG, MOTT & CO.,

Corner C and Taylor streets,

VIRGINIA, NEVADA.

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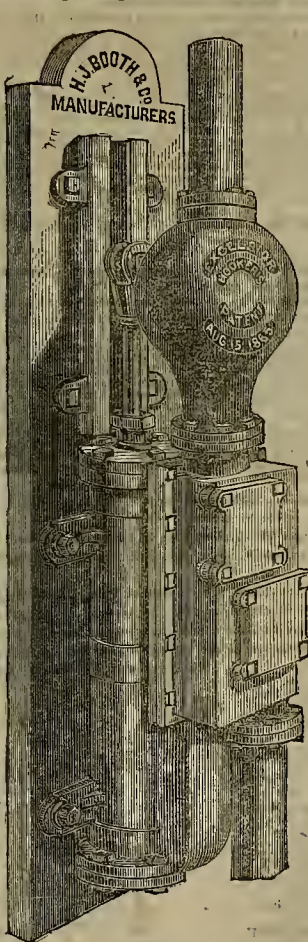
Nos. 148 AND 150 J STREET,

19v12 1f SACRAMENTO, CALIFORNIA.

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 19v12

EXCELSIOR PUMP!



THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets" thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. References can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufacturers, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITTON & CO.,

General Agents,
120 Front street, San Francisco, 2v13 3m

Send for Price List.

STODDARD'S

CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER, OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by

S. B. STODDARD,
Corner of Battery and Pacific streets, 2v12-3m
June 23, 1865.

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner. Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation. Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco, Foundry, corner Mission and Fremont streets, where orders will receive prompt attention. 15v12-3m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which

GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

19v12 416 Market street, San Francisco.



FLORENCE SEWING MACHINES!

COPY OF THE REPORT OF THE COMMITTEE OF AWARDS AT THE FAIR OF THE

AMERICAN INSTITUTE,

New York, 1865,

—TO THE—

Florence Sewing Machine Company,

FOR THE BEST FAMILY SEWING MACHINE.

HIGHEST PREMIUM—GOLD MEDAL!

REASONS:

- 1st.—Its simplicity and great range of work.
- 2d.—The Reversible Feed Motion.
- 3d.—The perfect finish and substantial manner in which the machine is made.
- 4th.—The rapidity of its working and the quality of the work done.
- 5th.—The Self-adjusting Tension.

The "FLORENCE" was awarded the First and Highest Premium at the State Fair of California, the only Fair on the Pacific Coast at which any two double-thread Sewing Machines were exhibited in competition in 1865.

The "FLORENCE" received the only premium awarded by the Mechanics' Institute of San Francisco, in 1864 and 1865, for any Sewing Machine. Sewing Machine Company, or Agent. The claim of a competitor to a medal is without any foundation whatever.

Wherever the "FLORENCE" has been brought in competition with other Sewing Machines, it has always been declared the best. It is the most simple, the most substantial, the most efficient, and its use is easily learned. Every Machine sold is guaranteed in the full sense of the word.

Send for Circulars and Samples of Work.

SAMUEL HILL, General Agent,

20v12-14w 111 Montgomery street, San Francisco.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by
THOMAS H. SELBY & CO.,
Nos. 116 and 118 California street 2v12 3m

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12-3m

Mining near Boise City, Idaho Territory.

A correspondent writes from Boise City, Idaho Territory, as follows:

It appears to me that a more extended circulation of the MINING AND SCIENTIFIC PRESS among the hundreds interested in quartz operations in this Territory, would save many from the failures which they are now making, wholly in consequence of their want of a proper knowledge of the work in which they are engaged. Of Owyhee, all that now can be said is that every one that could go, is off hunting the Indians. It would take a constant force, for two or three years, of 1,500 mounted men, to thrash these pests of this country.

Mons. De la Baume has been further experimenting on his process. It consists in roasting the ore, and then plunging it, whilst hot, into a chemical bath; but I have the idea that his chemicals are sal-soda and strong lye, but do not know for certain. He succeeds, however, in saving a large proportion of silver, which has hitherto been lost, and claims to be able to work about three times as much rock as by the usual process, without wasting. The experiments he has made have shown that the South Boise rock is not only productive of gold, but is rich in silver.

The reputation of South Boise has become bad through bad management, and, if charges be true, of no small amount of rascality on the part of overseers of works. In all lodes that have been sunk upon, the sulphides are fast increasing, whilst the free gold decreases. The true process for that country, however, is the Swansea process by smelting, and both at South Boise and Yuba, the facilities in the way of wood, grass and water for that system are most excellent. In fact, it would be cheaper to put up furnaces, and furnish wood, etc., than to transport the cumbersome machinery for the present stamp mills and pans through the mountains. There is a considerable quantity of iron, sulphur and antimony in all the South Boise rock.

Yuba is twenty miles east, or little north, of Rocky Bar, but there is not yet any wagon road to that place.

The Leonora lode, at Yuba, is the richest (apparently) ever found. It contains a streak, along the lode, varying from one to fourteen inches thick, in which the gold is in layers about as thick as thin sheets of paper, and between each layer of gold is about half an inch of decomposed, clayey quartz, full of fine gold. This streak has been suuk on for over thirty feet, and Mr. Cavallin, assayer at Rocky Bar, pronounces it worth over \$200,000 to the ton, which is cut out with cold chisels. Outside of this rich streak is a good lode four or five feet wide, in which is plenty of rock that will pay an ounce of gold to a pound of rock. The Atlanta has the appearance of being as good and lasting a lode as any in Yuba. I am of opinion that the developments made in Yuba will show that to be the richest quartz country ever yet found; the ledges are large, well defined and run down nearly straight, the dip rarely exceeding twenty degrees.

The difficulty is high wages. Men ask \$6 to \$8 a day. When men will be satisfied to take \$75 a month in gold and board, these mines will be worked to full advantage; but to employ thirty men at a cost of nearly \$5,500 a month, takes off the profits very fast.

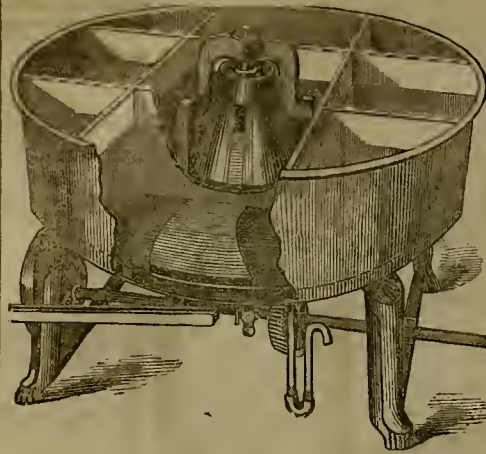
Men, during the past winter at Yuba, by hoisting rock and taking it to their cabins, made wages pounding it in hand mortars.

J. B. CONE, BUSINESS AGENCY.—Makes private sales of Property and Business Places of every description, in the city and throughout the State; procures partners with large and small amounts of money; negotiates sales of mining property, and does a General Agency Business. Patronage solicited by mail, express, or by personal application at the office, 402 Montgomery Street, San Francisco, California. 23v111r

COPPERAS! COPPERAS!

200 BARRELS COPPERAS—SULPHATE OF IRON. For sale, in lots to suit, by BENJAMIN BRADY, 103 California street, Southwest corner of Davis, up-stairs. 24v12

THE MINING PRESS has entered upon its thirteenth volume. It is a valuable publication in its sphere, and its sphere is a large and important one.—(Marysville Appeal.

Knox's Improved Patent Amalgamator and Separator,
With Palmer's Patent Steam Chamber or Die.

For further particulars, inquire of

ISRAEL W. KNOX, or
W. A. PALMER, inventors,

At the Golden State Iron Works, No. 10 First street, San Francisco.

THIS CUT REPRESENTS AN AMALGAMATOR and Separator that has stood the test of many years' practical working in the gold mines of California, and for nearly the same time in the silver mines of Nevada, having been introduced into the first steam mills built in the latter Territory, since which time they have been successfully working against all competition.

The great advantages these Amalgamators have over any others, are—

1st. Much less Cost.

2d. They do not "flour" the mercury, and collect any that may have been "sickened" in the battery or grinders.

3d. The "sloshing" motion given to the pulp (by the revolution of the muller under the stationary frame) against the amalgamated copper plates that are fastened to the frame, and by this means catching the fine gold and mercury that will not settle.

4th. The gate in the cone, through which the pulp is discharged, from the top, and where there is the least motion, almost precluding the possibility of any granulated mercury or fine gold escaping.

There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

HUNGERFORD'S IMPROVED CONCENTRATOR,

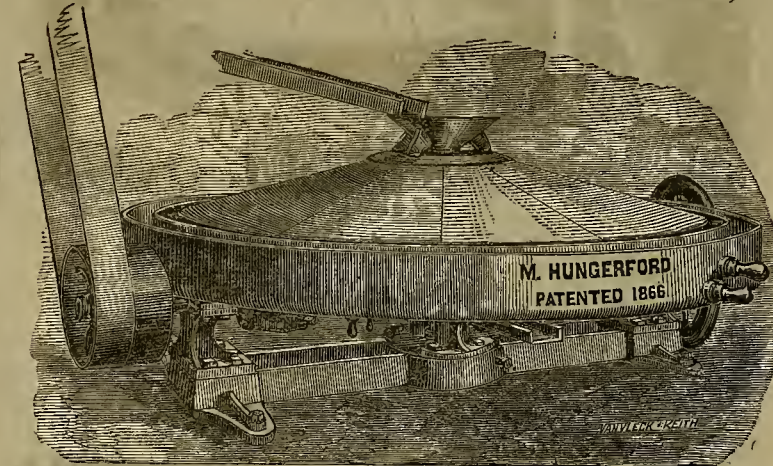


FIG. 1.

For Saving Gold, Sulphurets, Quicksilver, Etc.

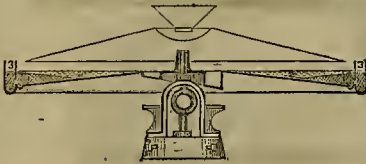


FIG. 2.

There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Mines are now abandoned, or, what is worse, paying assessments which, if the sulphurets were saved, would yield handsome dividends. Great difficulty, owing to the varied form and character of the sulphurets, has been experienced in devising a machine to separate them, and it is only by close and patient observation, persevering study and careful experiment, that any machine can be made or matured so as to save a high per centage of the sulphurets which are in the ore. No machine is so perfect as to save all; and the best is that which will save most with the least expenditure of time, money, and power. Many machines have been tried, and many abandoned; all of which have been tried, and many abandoned; all of which have been tried, and many abandoned.

The separating or concentrating action is obtained by centrifugal force and gravitation; the pulp being preserved by water in the proper condition for the operation, and the pan so constructed, mechanically, as to allow the centrifugal force and gravity to expend themselves to the best advantage in producing the separation, as well as to make the machine simple, compact, and easily kept in order.

Fig. No. 1 is a perspective view of the Concentrator while in operation, showing the general arrangement. Fig. No. 2 is a section through the centre of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

Its operation is as follows: The pulp flows from the spout through the filler into the bowl at the top, from which it is distributed equally over the convex cover into the pan near its outer edge. The lightest sand is at once carried off with the overflowing water through the centre opening, and the sulphurets are allowed, from the motion given to the machine, to gravitate to the bottom toward the outer edge, forming an embankment all around the pan, as represented at 1, 1, Fig. 2. The lighter particles of the sand arrange themselves on the top at 2, 2, Fig. 2, from which they are being constantly washed away with the water flowing through the central opening. The sulphurets are, by the centrifugal motion of the machine, made to pass through small openings at the bottom, at intervals of a few inches around the circumference, through the inner wall of the pan to the circular trough, 3, 3, Fig. 2, where they come in contact with the mercury at the bottom, depositing the free metal, from which it is drawn at pleasure by an opening in the bottom, and the sulphurets, in the order of their density, by openings in the sides.

It will be observed that the sulphurets in the trough, 3, 3, are maintained at the same elevation as the sulphurets and overlying sand in the body of the pan. It will be further observed, that by no possible means can the sand in the latter pass (as the former in such quantities as to form any considerable percentage of the amount saved. The advantages of this improved pan are continuous action, requiring no attention except to remove the receiving vessels as fast as they are filled from the openings shown on the right of Fig. 2, simplicity in construction, and durability and cheapness of cost.

The pan derives its motion from two eccentrics secured on a horizontal shaft passing across and below the centre of the pan and working between two pairs of adjustable wooden guide blocks or bearings. The eccentrics are so made as to bear equally on the wooden guide blocks in all positions while in motion, giving to the pan the most desirable motion for its purpose, and doing away with all complexity of rods, cranks, wooden frame, etc.

These pans are now being introduced into the best mills in the country. Reference to parties who have tested them can be had by applying to the manufacturers.

Those interested in mining, and who call at the Miners' Foundry to see the one which is there in operation, will have no reason to regret their visit.

San Francisco, June, 1866.

[3v13-1m]

M. HUNGERFORD,
Miners' Foundry, First Street.

The Hansbrow Pumps
ARE WARRANTED THE BEST.

FIFTEEN KINDS AND SIZES,
Adapted for FARM,

Mill and Mining Purposes.

Fitted for

HAND, WIND, HORSE, WATER AND STEAM POWER.

For sale in every city and town on the Pacific Coast.

LOCKE & MONTAGUE, Agents,

112 and 114 Battery Street, San Francisco.

Send for Illustrated Catalogue. 23v12-2m

MANUFACTURERS AND INVENTORS.

PACIFIC PATENT AGENCY, FOR INTRODUCING Patents and Published Articles into practical use, and to facilitate communication between producer and consumer.

J. H. ATKINSON,
Northeast corner of California and Kearny streets, San Francisco. 4v13-1m

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Gifford's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

114 Beale Street, San Francisco.

23v12 3m

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
SAN FRANCISCO. 3v

Portable Steam Engines!

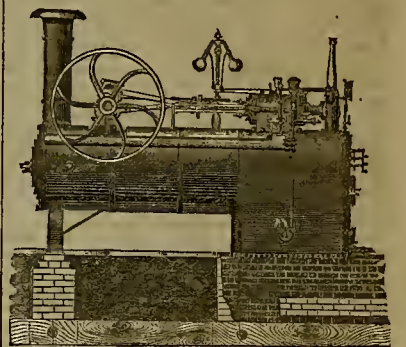
"Hoadley's" and "Hittinger's" Make.



HOADLEY'S.

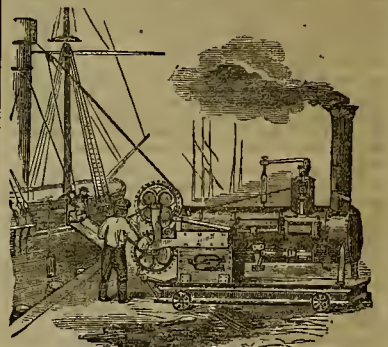
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

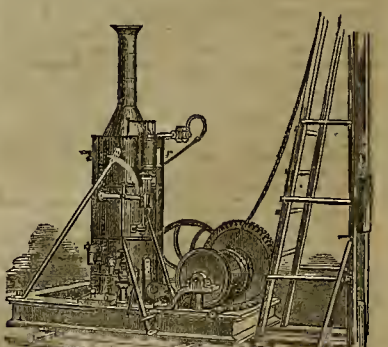
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price. These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, thrashing, milling and mining purposes. Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises), in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.

All sizes on hand from 3 to 30 horse power, with and without carriages.

Also, Portable Saw and Grist Mills.
For sale by TREADWELL & CO.,
18v12 Corner of Front and Market streets.

NATIONAL MINING LAW.

The following is the new Mining Bill to legalize the occupation of mineral lands, and to extend the right of pre-emption thereto, which has passed both branches of Congress, received the signature of the President, and is now a law:

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled:

That the mineral lands of the public domain, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and occupation by all citizens of the United States, and those who have declared their intention to become citizens, subject to such regulations as may be prescribed by law, and subject also to the local customs or rules of miners in the several mining districts, so far as the same may not be in conflict with the laws of the United States.

Sec. 2. And he it further enacted, That whenever any person or association of persons claim a vein or lode of quartz or other rock in place, bearing gold, silver, cinnabar or copper, having previously occupied and improved the same according to the local custom or rules of miners in the district where the same is situated, and having expended in actual labor and improvements thereon an amount of not less than \$1,000, and in regard to whose possession there is no controversy or opposing claim, it shall and may be lawful for said claimant or association of claimants to file in the local land office a diagram of the same, so extended laterally or otherwise as to conform to the local laws, customs and rules of miners, and to enter such tract and receive a patent therefor, granting such mine, together with the right to follow said vein or lode, with its dips, angles and variations, to any depth, although it may enter the land adjoining which land adjoining shall be sold subject to this condition.

Sec. 3. And be it further enacted, That upon the filing of the diagram as provided in the second section of this act, and posting the same in a conspicuous place on the claim, together with a notice of intention to apply for a patent, the Register of the Land Office shall publish a notice of the same in a newspaper published nearest to the location of said claim, and shall also post such notice in his office for the period of ninety days; and after the expiration of said period, if no adverse claim shall have been filed, it shall be the duty of the Surveyor General, upon application of the party, to survey the premises and make a plat thereof, endorsed with his approval, designating the number and description of the location, the value of the labor and improvements, and the character of the vein exposed; and upon the payment to the proper officer of five dollars per acre, together with the cost of such survey, plat and notice, and giving satisfactory evidence that said diagram and notice have been posted on the claim during said period of ninety days, the Register of the Land Office shall transmit to the General Land Office said plat, survey and description, and a patent shall issue for the same thereupon; but said plat, survey or description shall in no case cover more than one vein or lode, and no patent shall issue for more than one vein or lode, which shall be expressed in the patent issued.

Sec. 4. And be it further enacted, That when such location and entry of a mine shall be upon unsurveyed lands, it shall and may be lawful, after the extension thereof of the public surveys, to adjust the surveys to the limits of the premises according to the location and possession and plat aforesaid, and the Surveyor General may, in extending the surveys vary the same from a rectangular form to suit the circumstances of the country and the local rules, laws and customs of miners: Provided, That no location hereafter made shall exceed two hundred feet in length along the vein for each locator, with an additional claim for discovery to the discovery of the lode, with a right to follow such vein to any depth, with all its dips, variations and angles, together with a reasonable quantity of surface for the convenient working of the same as fixed by local rules: And provided further, That no person may make more than one location on the same lode, and not more than three thousand feet shall be taken in any one claim by any association of persons.

Sec. 5. And be it further enacted, That the President of the United States be, and is hereby authorized to establish additional land districts, and to appoint the necessary officers under existing laws, wherever he may deem the same necessary for the public convenience, in executing the provisions of this act.

Sec. 6. And be it further enacted, That whenever adverse claimants to any mine located and claimed as aforesaid, shall appear before the approval of the survey, as provided in the third section of this act, all proceedings shall be stayed until a final settlement and adjudication, in the Courts of competent jurisdiction, of the right of possession to such claim, when a patent may issue, as in other cases.

Sec. 7. And be it further enacted, That wherever prior to the passage of this act, upon the lands heretofore designated as mineral lands which have been excluded from survey and sale, there have been homesteads made by citizens of the United States, or persons who have declared their intention to become citizens, which homesteads have been made, improved and used for agricultural purposes, and upon which there have been valuable mines of gold, silver, cinnabar or copper discovered, and which are properly agricultural lands, the said settlers or owners of such homesteads shall have a right of pre-emption thereto, and shall be entitled to purchase the same at the price of \$1.25 per acre, and in quantity not to exceed one hundred and sixty acres, or said parties may avail themselves of the provisions of the act of Congress, approved May 20, 1862, entitled "An Act to secure homesteads to actual settlers on the public domain," and act amendatory thereof.

Sec. 8. And be it further enacted, That upon the survey of lands aforesaid, the Secretary of the Interior may designate and set apart such portions of the said lands as are clearly agricultural lands, which lands shall thereafter be subject to pre-emption and sale as other public lands of the United States, and subject to all the laws and regulations applicable to the same.

Sec. 9. And be it further enacted, That whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of Courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes aforesaid is hereby acknowledged and confirmed: Provided, however, That whenever, after the passage of this act, any person or persons shall, in the construction of any ditch or canal, injure or damage the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

Sec. 10. And be it further enacted, That the right of way for the construction of highways over public lands, not reserved for public uses, is hereby granted.

Sec. 11. And be it further enacted, That as a further condition of sale in the absence of necessary legislation by Congress, the local Legislature of any State or Territory may provide rules for working mines, involving easements, drainage and other necessary means to their complete development; and those conditions shall be fully expressed in the patent.

Passed July, 1866.

The above act is copied from the daily reports and may not prove to be verbatim.

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and its execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for Book and Pamphlet Printing entrusted to the Mining and Scientific Press Job Office.

ONE HUNDRED DOLLARS REWARD!!!

The above Reward will be paid to any one who will produce evidence of a failure of any of HENDY'S IMPROVED SELF-DISCHARGING CONCENTRATORS, Patented February 27th, and April 17th, 1866—which said amount is deposited for 60 days with Palmer, Knox & Co., No. 19 First Street, San Francisco.

June 23d, 1866.

J. HENDY, Patentee.

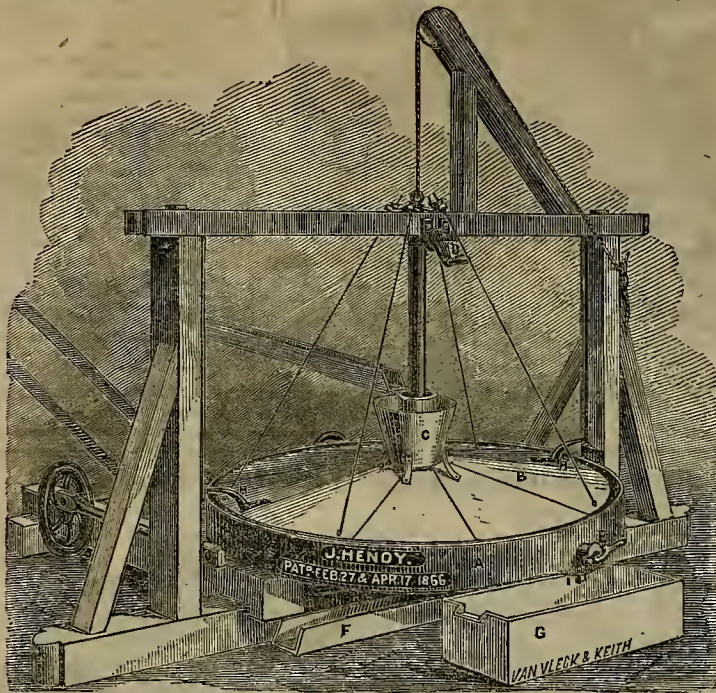


Figure 1.

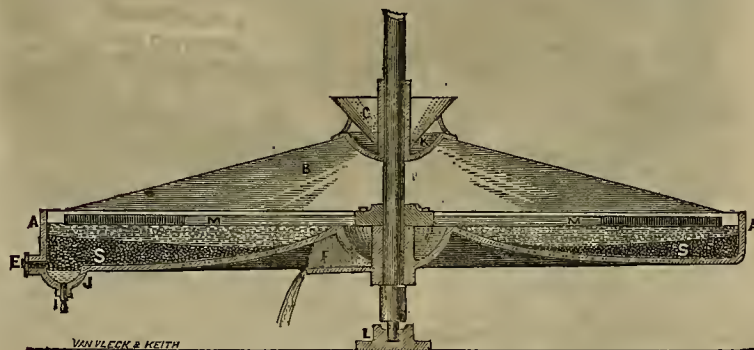


Figure 2.

Hendy's Improved Patent Self-Discharging Sulphurets

PRATER CONCENTRATOR

Is Receiving Universal Favor.

Reference is made to the following Mills which have them now in use:

BENTON MILL, Bear Valley, Mariposa County.
LOUISIANA MILL, near Conterville, Mariposa County.
OPHIE MILL, near Newcastle, Placer County.
C. H. SCHNABLE'S MILL, Doty Flat, Placer County.
CONY MILL, Jackson, Amador County.
SPRING HILL MILL, Amador, Amador County.
GOLDEN GATE MILL, Volcano, Amador County.
RAWHIDE MILL, Jamestown, Tuolumne County.
TRIUNFO G. & S. M. CO., Lower California, Mexico.

And in use in many other parts of this State; also in Idaho, Arizona, Colorado and Mexico. As a further evidence of its worth, orders have been received recently from the proprietors of the following mills, all of whom are using these Concentrators, or have works in the immediate neighborhood of mills using them, viz.:

One Concentrator for the Ophir G. & S. M. Co., near Newcastle, Placer County, ordered by Welly & Foster, who are using two Concentrators; one Concentrator for the Benton Mill, Mariposa County, ordered by Messrs. Dodge & Bro., of this city, who are using seven of them in the same mill; one Concentrator, ordered by Messrs. Bigelow & Bro., of this city, for the Cony Mill, Jackson, Amador County, where they have already three of them in operation.

They may be seen in operation at the GOLDEN STATE FOUNDRY, No. 19 First Street, San Francisco.

DESCRIPTION:

FIGURE 2 is a sectional view. C, is the Hopper in which the tailings are thrown. The tailings then distribute on the Distributor, B. The tailings enter the pan, A, at its periphery, and the debris discharges near its center, and passes off in the spout, F. The sulphurets discharge at gate, E, amalgam and quicksilver at plug, I. J, is a horn-shaped cavity for collecting quicksilver and amalgam. S, is the sulphurets. M, M, the agitating bars, with copper plate, coated with mercury.

The agitating bars operate on top of the pulp. They are acknowledged to be, by those using them, a valuable improvement. [An extra charge of \$15 is made when these bars are furnished.] The pan, A, shows a curve-linear bottom, which gives a more precipitous descent near its center, for the purpose of forcing the sulphurets towards the periphery. It will be noticed that the centrifugal force diminishes towards the center of the pan, for which reason the inclination is increased for the purpose above mentioned.

The pan, A, has an inclination at its periphery, towards the gate, E, for the purpose of forcing the sulphurets to the discharge gate. At the same time the center rim is level; the sulphurets, S, being forced by the oscillating motion of the machine, and are discharged through a small opening in the pan at gate, E.

JOSHUA HENDY, Esq., San Francisco:—MY DEAR SIR: It gives me pleasure to inform you that the four "Improved Self-Discharging Prater Concentrators," which I purchased from you, have now been in operation in the Rawhide Mining Company's Mill for more than two months, and have more than realized my expectations.

I am free to say it is the best Machine for saving Quicksilver, Amalgam, and Sulphurets that I have ever used or seen used for that purpose. I shall take pleasure in showing any one interested the Machine in operation, who will call at the mill. I shall need four more as soon as the balance of our mill is completed. Yours truly,

R. P. JOHNSON, Superintendent Rawhide Mill Company.

A Circular giving further particulars will be mailed to any part of the United States free of expense. Address,

JOSHUA HENDY,

402 Montgomery street, San Francisco, Room 3, Fourth Floor.

BANCROFT'S CATALOGUE OF SCIENTIFIC BOOKS.

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SAN FRANCISCO, SATURDAY, AUGUST 11 1866.

VOLUME XIII.
Number 6.

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[Reported for the Mining and Scientific Press.]

California Academy of Natural Sciences.

REGULAR MEETING, August 6, 1866.

President Ransom in the Chair.

Twenty-two members present.

Minutes of previous meeting read and approved.

Dr. D. J. Macgowan, of Chico, was elected a corresponding member.

Messrs. A. Godeffroy and W. H. Knight were proposed for resident members.

The following papers were presented: By Dr. Behr, on the California species of *Lycena*; by Mr. Stearns, "A List of Shells collected at Santa Barbara and San Diego, by J. Hepburn, with remarks upon some of the species;" by Professor Whitney, "Upon the occurrence of Tungstate of Copper and Silver in Combination in California."

Dr. Ayres laid upon the table several pamphlets, principally proceedings of various scientific societies.

Dr. Ayres called the attention of the Academy to a specimen of a species of black-fish, caught near the Potrero, and now on exhibition near the long bridge.

Professor Whitney presented a singular albino specimen of *sequoia sempervirens*.

Mr. Stearns remarked that Dr. Cooper had obtained additional specimens of the new helix described in the last sheet of the Academy's proceedings—*helix sequoicola*.

Sundry bills were audited and ordered paid. Adjourned. T. H. BLOOMER, Secretary.

HARD TO PLEASE.—We clip the following from the *Denver News* of July 25th:

The MINING AND SCIENTIFIC PRESS of San Francisco has at last discovered that there is a country called Colorado, and that it is a mining region. In its last issue, like the other mining papers of the United States, our Territory is given a place in its "mining summary."

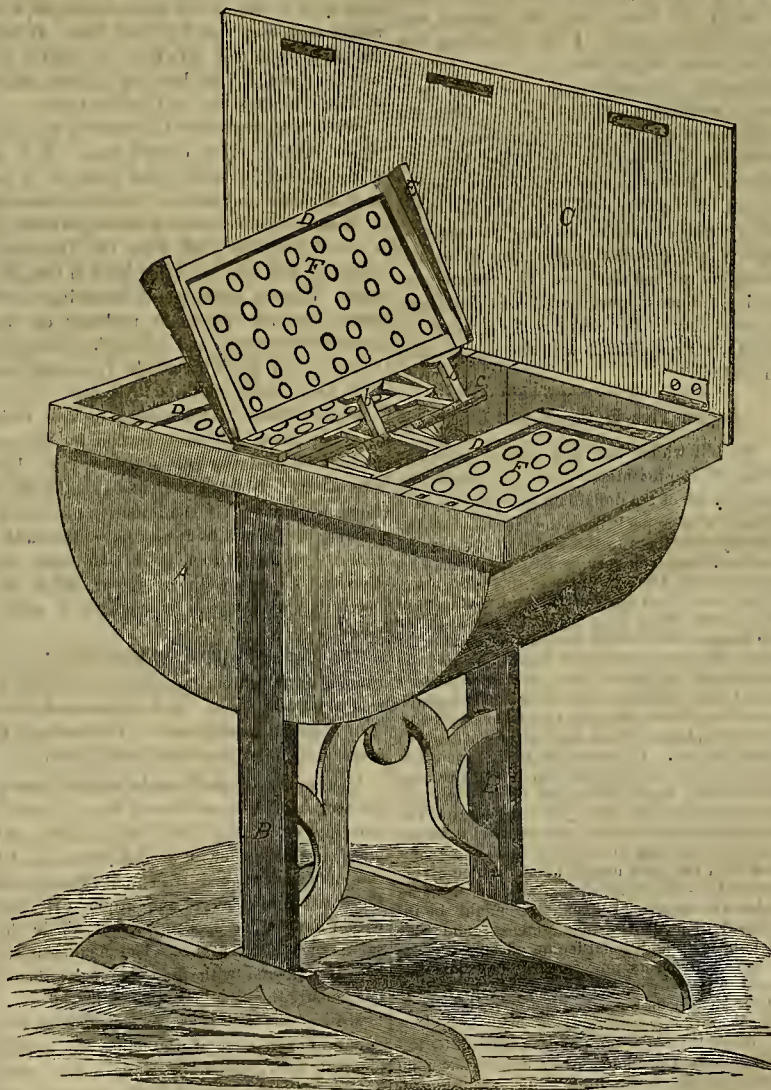
We would simply remark that we have taken the trouble to look over our file from April 28th to the present date. In sight of the fifteen numbers issued within that time, an average of more than half a column in our summary has been devoted to Colorado mines; while in the remaining seven numbers, the space allowed has averaged one fourth of a column. Almost every week, too, this jolly growler is credited with something or other. Pity he don't read the papers! He don't know what he has lost in the last three months!

PASSENGER TRAFFIC.—The number of passengers arriving and departing by sea during the month of July were as follows: Arrived, 2,255; departed, 1,534; Excess of arrivals for the month, 721.

LANDRY'S PATENT COIN ALBUM.

The word "album" is of Latin origin, and was used by the Romans to designate the white table or tablet of porcelain or other material, upon which the names of public officers, and public transactions, edicts, etc., were entered. In modern times the album has taken the form of a bound book, with black leaves, on which friends and distinguished strangers might leave their autographs or write some token of regard or words of advice

of a semi-circular box or holder, A, with cover, C, mounted upon standards, B, B; c, represents the axle passing through the sides of the box, and to which the leaves or tablets, F, are attached by the arms b, b. E, E, are the side rails, which, when closed together, form a segment of a circle. D, D, are the top and bottom rails of the leaves, between which is inserted two sheets of glass. For confining the coins a piece of pasteboard is employed, with holes cut in it of the desired size to receive the individual coins; this perforated pasteboard contains



LANDRY'S PATENT COIN ALBUM.

as a memento. Albums are also used as a receptacle of photographs, forming a ready and safe book wherein to keep the portraits of our relatives and friends.

But Mr. Norbert Landry, of this city, has conceived the happy idea that an album might be invented to provide a safe repository for coins, that would give at once a view of both sides, without soiling or presenting opportunities for the money to be stolen while being exhibited.

We give annexed an illustration of this invention, which we would prefer to call a coin cabinet, rather than an album, which consists

ing the coins, is placed between the two glass plates, and inserted in the frame, D, at the top, and pressed down to the lower portion of the same, where it is kept in position by stops and screws.

By this arrangement, both surfaces of the coin can be seen without handling, and the leaves can be turned on their axis, one after the other; and after inspection is ended, the box can be closed and locked.

To numismatologists, and all who are curious in saving coins, we would recommend this album, which has been patented through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

The inventor has presented one of these albums to the Numismatic Society of Boston, from which he has received a flattering compliment, as a testimonial of their appreciation of his invention.

NEW CEMENT CLAIMS.

We are informed that locations have recently been made by Theodore G. Kearsing, on Table Hill, on the South Fork of the Stanislaus River, Tuolumne county, distant westwardly from Northrop's Hotel about two miles. Our informant states that a small quantity of the material was worked in the Union pan, and yielded \$135.14 gold to the ton of 2,000 pounds. There were fifteen owners originally, now reduced to but few, and all of them good practical men, who know how to appreciate a good claim. They intend to work it vigorously. Several hundred pounds (as good as tons) were subsequently tested in the same pan, giving \$210 per ton. If gravel of the character worked in these trials can be obtained in any considerable quantity, the claims must be very valuable.

The claim is known as the "Wilson Gold and Cement Company." Charles Wilson is the principal owner, and on the strength of this last test, we understand that he has been offered a handsome sum for one-fifteenth, but declined a sale.

The extension claim, entitled the "Bonker Hill Gold Cement Company," is owned wholly by a prominent gentleman of this city, who was exceedingly fortunate to obtain it at a nominal price before its value was fully understood. It gives promise of being equally as good as the Wilson claim, and in the hands of the party will be made to add greatly to the already well merited and established character of the mines in Tuolumne county.

It is believed by those competent of judging by a long residence in that county, that the placer mines there have yielded but a moiety of gold in comparison to what the quartz ledges and cement and gravel claims will yield in the next decade. Evidence is daily accumulating from different parts of the State, even where placer mines have been good, giving indisputable proof that the greatest amount of gold lies in the quartz ledges and the immense deposit of cement and gravel found in old river beds.

In view of the placer mines proper, becoming, as a general thing, unprofitable to white labor, a more permanent character of mines is awaiting the coming of the patient and toiling miner, giving him promise of reward for his hard toil. The mines of this State most, for centuries, be its principal source of wealth.

MINING REPORTS.—We have received the "Annual Report" of the Savage Mining Company, for the fiscal year ending July 10th, 1866, but too late for any further reference this week.

We have also received the Prospectors' and Managing Directors' Report of the Hamilton G. & S. M. Co., of Nye county, Nevada, to which we shall refer more fully next week.

A FAST BOAT.—Daniel Drew, a Hodson river boat, recently ran sixteen miles in thirty-five minutes.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Written for the Mining and Scientific Press.)

Markleville Correspondence.

EDITORS PRESS:—While the Old Word is speaking to the New, and, receiving answers with the speed of the lightning's flash, it is but right that the mountains should speak to the seas; and although these mountains broke "everlasting silence" more than three years ago, and the hum of industry has ever since been heard on every hand, and the wild savage has been startled in his forest home by the swift approach of the industrious white upon his wild hunting grounds; still it seems that we scarcely have a name a hundred miles away. True, we have not made great shipments of silver bullion, nor have we been able to say that we have ever had any mines sufficiently developed to keep any one mill running any great length of time, but we have worried through the darkest hour of our "Pilgrim night," and now the morning of a glorious day is dawning upon us, and may the glorious sun of that day never go down!

Our mines are slowly but surely being developed, and before another twelve months shall have passed away, we shall be courted by the great and small—the man of means and him that hath none. Many of our most important mining companies are driving ahead with that faith that will remove mountains.

THE GREAT EASTERN COMPANY,
Which, by the way, is but a few miles from this place, have been, and still are, driving their works in the Raymond district, and will soon cut their ledge at a great depth. This is an Eastern company, having a large capital, who are not afraid to use it in mining operations as some are. Their claim is looked upon as being a number one claim, and their superintendent, Mr. Pilkington, is the man who knows how to manage the affairs of a great company—the right man in the right place.

THE ST. HELENA COMPANY
Are also driving their works in Alpine district, and very near this place. This company is constantly drawing money from the East, and have a fine prospect ahead. They have abandoned their shaft for the present, and are running a tunnel so as to cut their ledge at a depth of some three hundred feet. They already have pay ore in their shaft, but being troubled with water, have concluded to run a tunnel before sinking it deeper.

THE GEORGE LAW COMPANY
Have been driving their works during the entire spring and summer, and now have a fine tunnel of four hundred feet into the mountain. This company is incorporated in Virginia City, and is composed of capitalists who are not afraid to expend fifty or a hundred thousand dollars in prospecting. Their works are in sight of this place, and their superintendent, Mr. Wells, lives in our town, and knows how to keep the works going ahead. The general impression is that their ledge dips from them, and, consequently, it will take the longer to reach it, but at a greater depth, and should they find only a flattering prospect, it will be sufficient inducement for them to put up extensive works, and sink to a great depth.

THE GOOD HOPE COMPANY
Are, unfortunately, lying still this summer. This claim is looked upon as being the best claim in the county for the amount of work expended upon it. The ledge is well defined, having fine walls and good casings, while the rock is of a blue cast, and prospects well.

THE MORNING STAR COMPANY
Continues to persevere, and the day is not far distant when they will be handsomely rewarded for their labor and perseverance. They have recently contracted with a San Francisco company, and sold them ten thousand tons of ore at \$17.50 per ton; the contracting party to be at all the expense of taking out and working the ore. I have understood they contemplate working it by the smelting process.

P. S.—Some of our old pioneer friends who went to the East and elsewhere, have recently returned, and think more of Alpine county than all the world beside. This speaks well for our Alpine rights; and while other mining localities are having a general stampede from them, Alpine county has none of this, but holds her own; and the few who have gone away contemplate returning in a few months, and in the mean time their places are being filled up by new comers.

SIXKON.

Markleville, August, 3 1866.

Shasta County Quartz Mines.

[Extracts from a private letter.]

Parties here from Summit City pronounce this the richest district they have ever seen, and express great astonishment that we appear so apathetic; but they are soon convinced that we have great confidence in our mines, but have no money to proceed. Parties from San Francisco are expected here daily, and I have no doubt this visit will be productive of great good to the district. The Chicago company have exposed some of the richest ores ever found in quantities in the country. It is safe to say the ore is over half mineral, containing in the neighborhood of \$1,000 per ton silver, and that too, only nine or ten feet from the surface. There is a vein about fifteen inches wide of that character, and the balance of the ledge has mineral enough in it to pay well for working. The ledge is about three feet wide between "flukins." I have not been able to do much on my claims; but they look finely, and rank next to the Chicago. Will commence work on the Eclectic extension, as soon as miners can be had. Have found fine ores on the Eclectic since my last. This series of ledges appears to be the strongest in the district, and will assuredly speak for themselves when opened. If this district does not degenerate very rapidly in sinking on the ledges, it will surpass anything yet discovered in California, and others say, on this coast. I cannot conceive of ledges being located more favorably for cheap, easy development and economy of reduction. I am not writing this for any other object than to give you correct information on a subject, in which you have always manifested a lively interest. There are 1,200 feet in the Big Central; an average of the ore shows \$140 per ton, three feet from the surface. There are four veins on the Central ground, all showing good ore. A new hotel is being erected, and other evidences of increased activity are manifest, where stagnation has heretofore reigned supreme. Old Shasta, containing the most poverty-stricken population of any county in the State, will yet wear the laurel wreath, inscribed with that magic word "Excelsior."

Appeal Fees in the Patent Office.

The bill which has now passed both the House of Representatives and the Senate, imposing a fee of ten dollars on all applicants for patents who appeal from the decision of the primary examiners to the Board of Examiners-in-Chief, has given very general dissatisfaction to inventors. The advocates of this bill, among whom have been some of the higher officers of the Patent Office, have urged its necessity for the purpose of reducing the number of appeals taken on merely frivolous objections, and, by preventing the time of the examiner-in-chief from being wasted in examining such appeals, permitting better attention to, and more prompt action on, those which are better entitled to consideration. In opposition to this ground it is argued that, as the great amount of business which must come before the board precludes the possibility of their joint action on the majority of applications, and renders it necessary for each case to be decided by one examiner with the mere nominal concurrence of his associates—the board being a board in name only—the number of examiners might be increased to meet the requirements; and that to impose an additional fee on all appeal cases is to tax inventors unnecessarily and unjustly, more especially as the receipts of the Patent Office have been for some time past largely in excess of the expenditures.

While the fee of ten dollars required by the bill may be considered as an unjust tax upon those inventors who are compelled to appeal from the erroneous decisions of the primary examiners, and who ought not to be compelled to pay for the errors of the Patent Office, we do not think it sufficiently large to prevent many appeals from being taken on frivolous grounds. It would be better, if any restriction on appeals be necessary, to impose a large fee—say twenty dollars—on the hearing of the appeal, and allow it to be used as the balance-fee required on the issue of the patent in all cases in which the decision may be in favor of the applicant.—*American Artisan.*

COST OF SURVEYS IN CALIFORNIA.—The Secretary of the Interior reports to the House that the cost of the survey of land in California up to the present time is \$1,314,500, and the proceeds of all sales of land \$520,765. Rather an unprofitable business for Uncle Sam.

MINING IN ARIZONA.

We are indebted to Mr. John A. Mehon, one of the pioneer miners of Arizona, for the following detail of mining operations in that Territory. Nearly all the mining now going on there is in the northern part of the territory, and mostly within a radius of about thirty miles of the city of Prescott, which is now the capital of Arizona. The number of mills in operation or in course of construction is seven, as follows:

Smith & Christy's 6-stamp steam mill, located on the Sterling lode, in Quartz Mountain district, about six miles southwest from Prescott, was started the day before our informant left. It has Moore's amalgamators, with copper plates. The plates had been cleaned off, giving a promising show of gold.

The Vicksburg steam-mill, owned by the Philadelphia company, with a battery of twenty stamps, is now being erected on Bully Run lode, Turkey Creek district, about twenty-five miles southeast of Prescott. It will be in operation some time next month.

The Woolsey mill, with six stamps, and Moore's patent amalgamator, on the Woolsey or Aquon Frio Ranch, is now about ready to start. It is distant from Prescott about twenty-five miles east. It will reduce gold ores from the Green Tree and other lodes in the vicinity, and will run by water-power.

Charles Borger probably has his mill running by this time, in Big Bug district, and will reduce ores from the Big Bug lode. It is a 10-stamp steam mill, with pans, and said to be well constructed. Its location is fifteen miles southeast of Prescott, on Big Bug Creek.

What is known as the Lamson mill, is probably in running order by this time. It is a "Thunderbolt Crusher," and pans are to be used in connection with it. The mill is located in Walker's district, twelve miles southeast of Prescott, and will crush from the Lawrence, Florence, Brooklyn and other lodes in that district. There is another mill belonging to the same company which is probably on the ground by this time, and which it is designed to put up on the Chase lode, Hasyampa district, twelve miles south of Prescott.

Coulter, Tyson & Co. expect to have their 10-stamp steam mill in operation, in Walker district, by the latter part of last month. The site selected is about two miles southwest of Lamson's mill. It is the intention of the proprietors of this mill to do custom work, in addition to crushing from their own mine, the Eureka. Experienced men are engaged in this enterprise, and success is confidently anticipated.

The Vulture mill, at Wickerburgh, is still running on rock from the Vulture lode, and is said to be doing well. It is a steam mill, with Bath's patent amalgamator. Wickerburgh is about sixty miles southwest from Prescott.

In regard to the facilities for working ores in the section of Arizona situated about Prescott, our informant says that wood, water, and grass is abundant for all needed purposes. All the mines mentioned, with the exception of those at Wickerburgh and Aqua Frio, are within the region spoken of, and all in the same range of mountains. The mountains are heavily timbered with pine and oak; this is particularly the case in Walker's district.

Most of the rock contains considerable free gold, although some of the mines are heavily charged with sulphurets, while some carry galena and zinc; but the latter, especially, are few in number. The great difficulty heretofore encountered in working these mines has been the presence of hostile Indians; but they have done but little damage of late, nearly all having made treaties of peace, and are now living at Fort Goodwin. The high prices of provisions, and lack of mail facilities, have also been a great drawback in times past; but as the mails are now in the hands of a new contractor, it is thought that they will soon be delivered with a remarkable degree of regularity. Provisions are also becoming cheaper, and a brighter day for Arizona is now evidently dawning.

The depth of the shaft on the Vulture lode is eighty feet, developing good ore. The shaft

on the United States lode in Yavapai district is down seventy-five feet, showing a 9-foot vein of excellent ore. This district, not before mentioned, is about eight miles southwest from Prescott. This ore is an argentiferous galena, carrying also gold, averaging about sixty dollars to the ton. About 600 pounds of ore from this lode will probably arrive here on the next steamer from Los Angeles. There are about thirty-five tons of ore at the mouth of the shaft. Arrangements will soon be made for erecting furnaces, etc., for working this ore on the ground.

The Florence lode has a shaft forty feet deep, showing a 10-foot vein of very good ore—gold. Besides the gold ore, there is a thin stratum of ore containing argentiferous galena.

Our informant expresses the belief that there is no mine yet opened in this portion of Arizona to a depth of thirty feet, which does not contain ore of a fair paying quality.

But little, if anything, is now being done with the mines on the Gila, in the southern part of the Territory, where a large amount of expensive machinery is now lying idle. The reason of this suspension of work is mainly owing to the disturbed condition of Northern Mexico, through which most of the supplies for these mines must come. The mines there are, undoubtedly, valuable, and will, eventually, be worked at a profit. With the exception of the Mowrey mine, the Southern mines are not so well supplied with wood, water and grass, as those about Prescott.

CHEWING GUM.—To say that "chewing gum," which many children are so fond of, is one of the products of petroleum, would provoke a smile of incredulity from the uninitiated; yet, such is in all probability the fact. It is, at all events, the product of albertite, a variety of coal, the origin of which is attributed to petroleum. Many tons of chewing gum are manufactured in Portland, Maine, from the albertite of New Brunswick. Petroleum, or coal oil, is also manufactured from the same coal, one ton of which yields about one hundred gallons of crude oil. It is from the paraffine, which is extracted from this oil, that the gum is made. In fact, the chewing gum, as it is called, is nothing more or less than paraffine purified, until it resembles the finest wax. Our young friends who are in the habit of chewing this article need not feel any uneasiness lest they have put that in their mouths which is unclean, for such is not the fact. This chewing gum, notwithstanding the source from whence it is derived, is altogether clean, colorless, tasteless, inodorous and harmless, and is as much superior in cleanliness and every other desirable quality to the "filthy weed" which many gentlemen of mature growth love so well to masticate, as any one thing can be to another. We have said that chewing gum was white and colorless; it is so when first manufactured; but before being offered for sale it is variously colored and flavored.

WHAT CONSTITUTES A BARREL.—An important question has recently been settled by one of the New York courts, determining the legal size of a barrel. A purchaser contracted for 100 barrels of petroleum at nine dollars per barrel, but sent to the well barrels which considerably overran forty-two gallons each. The producer filled eighty-five barrels of these, making 4,200 gallons; one hundred barrels at forty-two gallons each; but declined to fill any more. He was sued for the fifteen barrels claimed. On the trial it was claimed that the act of Assembly provided that 31½ gallons make a barrel, and that no custom, nothing but express agreement between the parties, could reckon a barrel at more. Consequently, the claimant, instead of recovering his fifteen barrels as sued for, was compelled to account for the excess of 4,200 gallons, over 100 barrels, reckoning each barrel at 31½ gallons.

A curious invention is going to be tried in Paris. An iron tube is to be run up the side of those trees in the public gardens which require constant watering in summer. Up this tube water is to be forced, so as to produce an artificial shower when needed.

Mechanical.

COLUMNS OF STEEL.—In France a few experiments were made some time ago by M. G. I. Love, upon small pillars made of Turgot's steel, and having round ends. These pillars were one centimetre or 0.39 inches in diameter, the lengths being ten, twenty, and thirty times the diameter. The steel of which the pillars were composed, was found by experiment to have a tensile breaking strength of 108,500 pounds per square inch. According to *Engineering*, the results show that, as in the case of cast and wrought iron, the resisting power of steel to compression decreases as the proportion which the length of the column bears to the diameter is increased; but this decrease in strength does not seem to be so rapid as in the case of the two first mentioned materials. M. Love's own deductions are, that steel and cast iron columns, having a length of from one and a half to five diameters, offer about the same resistance to compression; whilst columns of wrought iron of the same proportions, offer only about half such resistance. When the length of the columns is increased to ten diameters, however, he considers that steel offers a greater resistance than cast iron, in the proportion of 41 to 31, the proportionate resistance of wrought iron being represented by 17. As the proportion of length to diameter increases, the resisting power of cast iron diminishes more rapidly than that of wrought iron, and that of wrought iron more quickly than that of steel, so that when the length reaches forty diameters, he estimates the strength of similar columns of the three materials to be in the proportion of the numbers 375, 562 and 1,500. It is wrong to found a law upon so few experiments; but if the data above given are confirmed by future trials, steel will prove a valuable material for resisting compression.

AN ANCIENT REVOLVER.—I saw in the historical collection of Dresden an object of great interest. It was a perfect revolving pistol, more than two hundred years old; and no antiquated, half-made, rough, rudimentary affair, either, but as thoroughly finished a pistol as were the Toledo and Damascus blades of older date. It was of about the same size as a Colt's revolver, and not only were the revolving barrels of precisely the same structure, size and shape, but they were six in number. The only point of inferiority was that in this there is no spring to bring up the next barrel when one is fired. It must be done with the hand. But this is a little thing, and could have been easily remedied. Colonel Colt was shown this pistol when in Europe, shortly before his death. The same gentleman exhibited it to me, and told me he never saw a more expressive face than Colt's, when he saw his own invention applied more than two centuries ago. Of course the lock was flint, and yet, being what is known as a revolving lock, it was packed away in a very small space, and the whole aspect of the pistol was as neat and attractive as any modern revolver. There is also another firearm still more interesting—it is a Whitworth gun, perfect in every respect, excepting that the bore is square, instead of six-sided. True, it is not, that there is nothing new under the sun?—*Cor. Springfield Republican.*

AN ANCIENT STOVE.—The oldest stove, probably, in the United States, is one which warms the hall of Virginia's Capitol in Richmond. It was made in England, and sent to Virginia in 1770, and warmed the House of Burgesses for sixty years before it was removed to its present location, where it has been for thirty years. It has survived three British monarchs; has been contemporaneous with four kingly monarchies, two republics, and two imperial governments of France. The great Republic of America has been torn by intestine strife, the breaches partly healed, and still the old stove remains, unmoved in the midst of all.

HONORS TO MECHANICAL ENGINEERING.—At the commencement of the University of the City of New York, held on the 21st at Niblo's Garden, the degree of Doctor of Physical Science (*Doctor Physicis Artibus*), was conferred upon Mr. Erasmus W. Smith, the well-known engineer of Harlem Bridge and of various corporations. Mr. Smith is also superintending the construction of the Dunderberg for the Government contractor, Mr. W. H. Webb. This is the first instance of the conferring of this degree in the country.

It is stated that New Haven is the only place in the United States where fishhooks, needles, and steel-bow spectacles are manufactured. Needles, however, are now made in Bridgeport and other places.

A NEW HAVEN company has begun the manufacture of a compressed stone for building purposes. It is made of sand, pulverized quartz, and silicate of soda, and hardens within twenty-four hours from the consistency of putty to the solidity of stone.

CLEANING HORSES BY MACHINERY.—At the establishment of the Manchester Carriage Company, Peadleton, England, there is in practical operation, a novel and ingenious system of cleaning horses by means of a steam brushing machine, invented by a Mr. Haworth. In the lower stableyard there is a large shed, where ten or a dozen horses can be cleaned at one time. Along the center of the roof is a revolving shaft, from which hang several endless straps. Each strap gives motion to a horizontal pole, at one end of which is a conical brush that rotates rapidly. On an omnibus horse being brought into the stable, after his three hours' work, he is taken to this shed and a man applies to him the machiac brush. In about half an hour the animal is thoroughly cleaned, and only the head requires finishing by hand. This cleaning effected by the machine is much more searching and effectual than the most diligent hand currying can possibly be, and to the majority of animals the greater cleanliness of their skins, as well as the improved circulation of the blood which is produced by this machine brush, appear to be acceptable. Most horses undergo the operation quietly and patiently; but in some animals timidity is produced by the rattle of the machinery. The most important result of the adoption of this invention is the economy of labor which results from it. Under the old system a man was thought to have done a fair day's work if he cleaned ten or a dozen horses, but by this machine he can clean thirty in the same time, and with considerably less heavy labor.

HARD HYDRAULIC CEMENT.—The following receipt is given for a cement which it is said has been used with great success in covering terraces, lining basins, soldering stones, etc., and everywhere resists the filtration of water. It is so hard that it scratches iron. It is formed of ninety-three parts of well-burned brick, and seven parts litharge, made plastic with linseed oil. The brick and litharge are pulverized; the latter must always be reduced to a very fine powder; they are mixed together, and enough of linseed oil added. It is then applied in the manner of plaster, the body that is to be covered being previously wet with a sponge. This precaution is indispensable, otherwise the oil would filter through the body and prevent the mastic from acquiring the desired hardness. When it is extended over a large surface, it sometimes happens to have flaws in it, which must be filled up with a fresh quantity of the cement. In three or four days it becomes firm. If its advantages have not been overrated it must be a very excellent cement for rendering the joints of aquariums water tight.

OIL FOR FUEL.—A series of important experiments upon Mr. Richardson's method of burning mineral oil as a fuel for steamships, and also as fuel for steam-engines, was lately terminated at Woolwich Dockyard, England, with complete success. Ten pounds of water is the highest quantity that has ever been evaporated per pound of the best steam coals; upwards of eighteen pounds of water has now been evaporated continuously for many hours by oil from the celebrated Torbaux-hill or Boghead mineral. The trials with other rock oils, though not reaching quite so high a figure, have been such as to prove the superiority of mineral oil over coal, and the perfect capability of maintaining the strongest fire without the slightest cessation or diminution of its intensity until the complete exhaustion of the stores of fuel.

A STEAM CARRIAGE ON BROADWAY.—Persons who were on Broadway yesterday afternoon were surprised by the appearance on that thoroughfare of a vehicle propelled by steam. The carriage was about eight or ten feet in length, with iron wheels, and had two seats lengthwise, with comfortable cushions and backs. It was occupied by half a dozen men, and was operated by one man, who acts both as engineer and guide. There was very little noise, and nothing to denote its speciality except the absence of horses and a small smoke-stack, about a foot high, at the forward end. The stack resembles an ordinary stovepipe. The carriage was turned into Grand street with apparent ease, and that street being less obstructed by vehicles than Broadway, it was driven at the average speed of a horse-car.—*N. Y. Post, June 13.*

ENGRAVING ON GLASS.—Engraving upon glass has hitherto been, not unfrequently, effected by the use of fluorine acid, which often produced dangerous wounds, when by accident it came into contact with the skin of the workmen. Mr. Henrie Sainte-Claire Deville has recently exhibited to the Academy of Sciences of Paris some very fine examples of glass engraving executed by means of a solution of the fluorides of calcium in hydrochloric acid, with which there is no such danger. The results obtained by this method are said to be exceedingly satisfactory.

Scientific Miscellany.

INFLUENCE OF CLOUDS IN PHOTOGRAPHY.—It has recently been discovered that clouds exercise an important influence upon photographing scenery. It is shown that views, when taken beneath clouds does not reproduce distant details, as for instance the foliage upon distant hills, or the smaller stones or other objects lying upon the ground. The magnifying glass when applied to photographs of distant scenery, taken beneath overhanging clouds, reveals only a bare, hazy surface, while those parts of the same picture above the clouds, as for instance, the mountain tops, reveal even the minutest detail at the distance of several miles. Photographs of the Peak of Teneriffe, by Prof. Smyth of England, a portion of which was beneath the shadow of a cloud at the time it was taken, exhibit this fact in a most marked manner. On the parts at high elevation, above the cloud-shadow, and consequently most distant, every little bush is shown, under a magnifying-glass, to be distinctly depicted, with its leaves and stems, even to the distance of four and a half miles from the camera.

A POWERFUL MICROSCOPE.—The most powerful microscope ever constructed, has been made by Messrs. Powell & Lealand, and described in a paper read before the Royal Society of London, England. The power of this instrument is fully double any which had ever been constructed previously, and altogether surpasses what had before been considered the utmost attainable limit of perfection in this instrument. This powerful microscope magnifies 3,000 diameters with its lowest eye piece, and 15,000 diameters with its piece of the highest power—the latter being equivalent to magnifying no less than 1,575,000,000, or making an object appear that number of times larger than it really is! How immensely must such an instrument increase our knowledge of the lower organisms; may it not even enable us, eventually, to determine the ultimate constitution of matter; it must, at least, greatly aid the scientist in his researches in that direction.

CURIOS COMBINATION OF LIGHT.—By means of the stereoscope, Professor Rood, of Columbia College, has recently been studying the combination which takes place when light of different tints is presented to the right and to the left eye. He confirmed, what has already been announced, that when differently-colored glasses are held before the two eyes, a combination of the two tints takes place in the brain, the resultant impression being the same as is produced by mixing the two tints together, and presenting the compound to the single eye.

COST OF WAR.—Professor de Candolle, at the horticultural banquet in London, recently, drew attention to the flourishing condition of science in countries with a free political system, and said that with a day's pay of the millions of soldiers massed on the continent, a conservatory might be erected from Paris to Berlin. Instead of meeting with nothing but the "blood-red blossoms of war," through that distance, we might roll along over a thousand miles through a perfect garden of the choicest and most fragrant flowers.

UNDER the name of "mineral ether" a very pure and useful article has been introduced into commerce. It is free from all disagreeable smell, volatilizes perfectly, leaving no odor, and removes grease stains most effectively.

SCIENTIFIC investigations show that in ascending mountains, the heart-beats increase on an average of one per minute for every hundred yards of ascent.

THE photographic power of the sun is due to the presence of netlike or invisible rays. It is not the light that paints the solar picture.

PLANTS WITHIN PARTS OF PLANTS.—Some observations appear to show that plants are sometimes formed within the cells of plants. In the cambiums of the cedar and the potato cells have been observed containing small tetrahedral bodies, which were gradually transformed into minute plants.

LEAD POISONING.—Poisoning by drinking water which has acted on lead happens far more frequently than is often suspected, and the mode in which the water is rendered poisonous is frequently difficult of discovery. A correspondent of the London *Times* states that, from a rural parish where the drinking water is got from draw-wells, and where are neither leaden pumps nor leaden pipes to contaminate the water, several of the peasantry went lately to the neighboring county infirmary, suffering from lead poisoning. Careful investigation led to the discovery of the source of the evil—in the so-called "tinned" kettles in which the water used for tea and for cooking was boiled. It was ascertained that the "tin" with which the kettles were lined was an amalgam of tin and lead. The adulteration of tin with lead is one of the most common frauds. It is of very great importance to public health that some way of escaping from poisoning by leaded tin should be discovered, and it would be desirable that we should know whether there is any coating for iron which would resist heat and the ordinary action of water, and which could be substituted for what is called "tin." About a year ago a French patent was taken out for such a coating, and the coating is said to have stood very severe tests of heat and acids. Such a coating has also been discovered lately in England. Any one giving accurate information respecting such coatings would confer a boon upon the public.

SINGULAR EFFECTS OF ELECTRICITY.—The following remarkable effects of the fulminating power of hodies recently struck by lightning, have recently been communicated to the Paris Academy of Sciences: "On the 30th of June, 1854, a man was killed by lightning near the Garden of Plants, at Paris; the body remained for some time exposed to a pouring rain. After the storm, two soldiers, in attempting to lift up the body, received two violent shocks. In the other case, which occurred at Zara, Dalmatia, two artillerymen who had been ordered to set up again in their former places two telegraphic posts that had been thrown down during a storm, took hold of the telegraph wire. Although it was two hours after the storm, there was so much electricity left that the man first experienced a few slight shocks, and then was both thrown to the ground. The hands of both were scorched, and one of them did not even for a time show any signs of life. The other, in attempting to get up, sank down again, and in so doing touched a comrade, who was coming to his assistance, with his elbow. The third man was then thrown down in his turn, experienced various nervous effects, and his arm was marked with a burn at the spot where he had been touched by the other man's elbow.

HOW TO TEST THE PRESENCE OF LEAD IN WATER.—A very ready test for lead in water consists in taking two tumblers and filling one with water which is known not to have been in contact with lead; the other being filled with the suspected water. Dissolve in each about as much bichromate of potash as will stand on a dime. By daylight the water in each tumbler will be of the color of pale sherry and water. Cover the tumblers so as to keep out dust, and let them stand in a warm place in a room with a fire in it for twenty-four hours. If the suspected water be free from lead, it will have the same color as the other, but if there be lead in the water it will have a more or less opalescent tint, as if a drop or more of milk had been put into it. If there be a great quantity of lead in the water, a very slight film of lead will be deposited on the glass.

USE OF GLYCERINE FOR MOISTENING MODELING CLAY.—Cosmos records some experiments on the use of glycerine instead of water for moistening modeling clay. Clay, first well dried and then rendered plastic by admixture with glycerine, was kept in a hot room for two months, at the end of which time its plasticity had not in the least diminished. Clay rendered plastic by glycerine would seem to be capable of being used over and over again indefinitely, just like wax: with the advantage over wax of always retaining the same consistency and degree of plasticity, neither being hardened by cold nor softened by heat.

THE PRESERVATION OF SULPHATE OF IRON.—Signor Pavesi recommends the following method of preserving sulphate of iron from oxidation: Mix four parts of pure crystallized sulphate of iron, and an equal quantity of finely-powdered gum arabic, with distilled water, and evaporate the solution in a water-bath, at a low heat, till it has a sufficient consistency to be poured out on plates of glass. When it has been poured out in this way, and allowed to dry at a temperature of thirty degrees cent. in the dark, it may be cut up into lozenges, which can be kept for any length of time in a colored stoppered bottle.

BEAUTIFUL IDEA.—The death of the body no more interrupts this life of the soul than the breaking of a crystal glass destroys the sunbeam that shone so brightly on it.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Friday, August 3.

AFTERNOON SESSION.

48 shs Ophir at 275 per foot.
24 shs Ophir at 270 per foot, a 30.
12 shs Ophir at 277½ per foot, b 15.
12 shs Ophir at 275 per foot, s 5.
12 shs Chollar-Potosi at 182 per foot.
5 shs Chollar-Potosi at 182 per foot, s 10.
5 shs Chollar-Potosi at 180 per foot, b 30.
3 shs Belcher at 150 per foot, s 3.
11 shs Belcher at 156½ per foot, b 30.
1 sh Belcher at 155 per foot, s 30.
20 shs Belcher at 157½ per foot, b 10.
2 shs Belcher at 160 per foot, b 3.
1 sh Belcher at 160 per foot, a 10.
6 shs Yellow Jacket at 655 per foot, b 30.
6 shs Yellow Jacket at 700 per foot, b 30.
3 shs Yellow Jacket at 697½ per foot, b 30.
3 shs Yellow Jacket at 635 per foot, s 30.
1 sh Yellow Jacket at 690 per foot, b 30.
1 sh Yellow Jacket at 690 per foot, b 5.
2 shs Savage at 1060 per foot, b 3.
1 sh Savage at 1055 per foot, b 3.
1 sh Savage at 1060 per foot, s 30.
8 shs Alpha, G. H., at 90 per foot.
5 shs Overman at 40 per foot, b 3.
25 shs Sierra Nevada at 12½ per share.
5 shs Pacific Insurance at 180 per cent.
5 shs Pacific Insurance at 180 per cent, b 2.
Amount of sales.....\$ 34,961 00

Saturday, August 4.

8 shs Gould & Curry at 705 per foot.
300 shs Daney at 65½ per share.
6 shs Yellow Jacket at 695 per foot, s 20.
4 shs Yellow Jacket at 690 per foot, b 30.
8 shs Yellow Jacket at 695 per foot, b 3.
3 shs Yellow Jacket at 700 per foot, b 3.
1 sh Savage at 1035 per foot, b 3.
1 sh Savage at 1030 per foot.
5 shs Belcher at 152½ per foot.
1 sh Belcher at 155 per foot, s 3.
1 sh Belcher at 160 per foot, b 30.
2 shs Hale & Norcross at 1600 per ft. s 3.
1 sh Chollar-Potosi at 182½ per foot.
48 shs Ophir at 270 per foot.
12 shs Ophir at 275 per foot, s 3.
12 shs Ophir at 280 per foot, b 30.
36 shs Ophir at 270 per foot, s 30.
12 shs Ophir at 275 per foot, b 3.
20 shs Bullion at 37½ per share.
23 shs Bullion at 30 per share, b 30.
5 shs Bullion at 37 per share, s 3.
5 shs Overman at 35 per share, s 5.
10 shs Overman at 35 per share.
25 shs Overman at 35 per share, s 3.
15 shs Overman at 38 per share, b 30.
5 shs Confidence at 47½ per share, b 30.
5 shs Imperial at 95½ per share, s 30.
30 shs Sierra Nevada at 3½ per share.
Amount of sales.....\$ 29,832 00

Monday, August 6.

4 shs Chollar-Potosi at 185 per foot.
1 sh Chollar-Potosi at 184 per foot.
2 shs Chollar-Potosi at 182 per foot.
6 shs Chollar-Potosi at 182½ per foot.
5 shs Chollar-Potosi at 182 per foot.
16 shs Daney at 5 per foot.
25 shs Daney at 5½ per foot.
1 sh Yellow Jacket at 702½ per foot.
1 sh Yellow Jacket at 700 per foot, s 3.
12 shs Yellow Jacket at 700 per foot, a 30.
1 sh Savage at 1030 per foot, s 3.
1 sh Savage at 1035 per foot, b 3.
1 sh Savage at 1032½ per foot.
1 sh Savage at 1025 per foot, c.
1 sh Savage at 1020 per foot.
8 shs Alpha, G. H., at 90 per foot.
4 shs Alpha, G. H., at 100 per foot.
1 sh Belcher at 154 per foot.
2 shs Belcher at 153 per foot, s 3.
1 sh Belcher at 152 per foot.
1 sh Belcher at 155 per foot, b 30.
4 shs Belcher at 155 per foot, b 30.
1 sh Belcher at 150 per foot.
1 sh Belcher at 152½ per foot.
1 shs Belcher at 151 per foot, s 30.
6 shs Imperial at 97½ per share.
5 shs Imperial at 97½ per share, s 30.
5 shs Imperial at 99 per share.
5 shs Imperial at 100 per share, b 30.
10 shs Imperial at 98 per share, s 30.
3 shs Imperial at 99 per share.
10 shs Overman at 36 per share, a 5.
5 shs Overman at 36½ per share, s 5.
5 shs Overman at 36½ per share.
10 shs Overman at 37 per share.
20 shs Overman at 37 per share.
5 shs Overman at 36 per share, s 30.
10 shs Sierra Nevada at 3 per share.
10 shs Sierra Nevada at 3 per share, b 30.
20 shs Esmeralda at 1 per share.
1 sh Cal Steam Nav Co at 75 per cent.
AFTERNOON SESSION.
1 sh Yellow Jacket at 700 per ft.
1 sh Yellow Jacket at 705 per foot, b 30.
2 shs Hale & Norcross at 1600 per foot, s 30.
1 sh Belcher at 151 per foot.
12 shs Ophir at 260 per foot.
36 shs Ophir at 262½ per foot.
5 shs Chollar-Potosi at 178 per foot.
20 shs Bullion at 30 per share, s 3.
2 shs Bullion at 30 per share.
1 sh Bullion at 28 per share.
5 shs Overman at 37 per share s 30.
30 shs Overman at 38 per share.
50 shs Lady Bryan at 1 per share.
50 shs Sierra Nevada at 2½ per share.
10 shs Imperial at 99 per share.
Amount of sales.....\$ 23,562 00

Tuesday, August 7.

12 shs Ophir at 260 per foot.
24 shs Ophir at 265 per foot.
5 shs Chollar-Potosi at 175 per foot.
5 shs Chollar-Potosi at 178 per foot, s 3.
18 shs Chollar-Potosi at 178 per foot.
5 shs Chollar-Potosi at 173 per foot, c.
1 sh Savage at 1045 per foot, b 30.
2 shs Savage at 1045 per foot.
1 sh Savage at 1040 per foot.
1 sh Savage at 1037½ per foot.

SAN FRANCISCO, SATURDAY MORNING, August 11th, 1866.

There is more activity in the Money Market, without, however, any appearance of stringency. During the past sixty days the shipments of treasure to New York, England, China, etc., have amounted to \$9,250,000; and the receipts from domestic sources, including coin, have not exceeded \$8,000,000. If the shipments of coin to the interior be added to our exports, the aggregate drain upon our resources for the past two months will be fully \$2,000,000 in excess of the actual receipts of gold and silver. In other words, the production of the precious metals has been twenty per cent. less than the demand for commercial purposes; involving, also, the loss of considerable sums of coin. The effect of this is, we think, already apparent in some quarters, and if the export demand for bullion does not soon materially fall off, a less easy money market may be reasonably anticipated the ensuing summer and fall. Rates of interest still rule at 1@1½ per cent. per month in bank.

We learn that a dividend of 1 per cent. has been declared upon the capital stock of the Bank of California for the month of July.

Receipts of Treasure from the interior mining districts since the date of our last reference, amounted to some \$900,000. The Sub-Treasurer in this city has shipped East, since January 1st, \$6,500,000 for Government account.

The market is well supplied with Bullion, and the shipping requirements less active than for some time past. Gold bars are selling at \$60, and even lower figures are reported. Silver is quotable at about par for round lots.

Currency bills on the Atlantic are offered at 42 per cent. premium on gold. Sight drafts, payable in coin, are selling at 2½ per cent. premium, and the rate for Telegraphic Transfers has been advanced to 4 per cent. premium. Sterling may be quoted at 48¼@48½d for best banker's bills.

Legal Tender Notes continue dull and inactive. Small sales have been made this week at 71½@72¼c; closing at the latter rate, asked. Our latest telegraphic advices from the East, to the 9th inst., quote gold at 148½.

The Mining Share market has been characterized by a fair degree of activity, and nearly all stocks were well maintained.

Hale & Norcross was dealt in at \$1,600, seller 30, closing at \$1,650 bid. The total product of the mine last month amounted to 2,739 tons of ore, and 65 per cent. of the assay value of which (required of the mills) exceeded \$141,000. A dividend of \$75 per foot was declared yesterday for the month of July, leaving \$50,000 surplus at the credit of the company. In drifting east some 125 feet from the shaft, on the 400-foot level, a promising seam of pay ore has been found.

Savage has continued to improve, advancing from \$1,030, ex-dividend, to \$1,085, buyer 30, then selling at \$1,190, and closing at \$1,200. During the week ending the 4th instant, 901 tons of ore were extracted, and 766 tons shipped from the mine. The cost of producing this ore is estimated at \$9,034, and its reduction at \$12,315, leaving an approximate profit of \$15,000 for the past week. The balance at the credit of the company, after the payment of the last dividend, is said to have been at least \$35,000.

1 sh Savage at 1035 per foot, s 10.
1 sh Savage at 1037½ per foot, s 3.
8 shs Gould & Curry at 725 per foot.
4 shs Crown Point at 1000 per foot.
4 shs Crown Point at 980 per foot.
1 sh Belcher at 146 per foot.
5 shs Belcher at 142½@145 per foot.
2 shs Belcher at 140 per foot, s 5.
3 shs Belcher at 141@142 per foot, s 3.
1 shs Yellow Jacket at 700 per foot.
1 shs Yellow Jacket at 700 per ft., b 30.
6 shs Yellow Jacket at 690 per foot.
1 sh Yellow Jacket at 690 per foot, h 3.
2 shs Yellow Jacket at 685 per foot, s 3.
1 shs Yellow Jacket at 685 per foot, s 3.
15 shs Overman at 40 per share, h 5.
5 shs Overman at 40 per share, s 3.
12 shs Overman at 40 per share.
25 shs Overman at 41 per share, b 5.
5 shs Overman at 41½ per share s 3.
5 shs Overman at 42 per share, h 5.
5 shs Overman at 41½ per share.
5 shs Overman at 41 per ft, s 3.
10 shs Overman at 40 per share, s 30.
20 shs Overman at 41½ per share, b 5.
5 shs Overman at 40½ per share, s 30.
5 shs Overman at 41 per share, b 10.
5 shs Overman at 40 per share, b 5.
5 shs Overman at 39½ per share, s 3.
5 shs Overman at 39½ per share s 3.
5 shs Overman at 40 per share, b 3.
5 shs Exchequer at 5 per share.
10 shs Bullion at 23 per share, s 3.
10 shs Bullion at 30@29 per share.
50 shs Lady Bryan at 1 per share.
85 shs Lady Bryan at 1½ per share.
5 shs Confidence at 50 per share.
\$700 Legal Tender Notes at 72c.
\$15,000 Legal Tender Notes at 71½c.

AFTERNOON SESSION.

2 shs Yellow Jacket at 675 per foot.
1 sh Yellow Jacket at 670 per foot.
9 shs Yellow Jacket at 660@665 per ft.
1 sh Yellow Jacket at 660 per foot, s 3.
1 sh Yellow Jacket at 690 per foot, b 2.
1 shs Yellow Jacket at 662½ per foot.
3 shs Yellow Jacket at 660 per foot, s 30.
5 shs Yellow Jacket at 664@663 per foot.
5 shs Savage at 1040 per foot.
12 shs Ophir at 265 per foot.
1 sh Chollar-Potosi at 175 per foot.

Wednesday, August 8.

24 shs Ophir at 265 per share.
84 shs Ophir at 265 per foot.
2 shs Yellow Jacket at 650 per foot, s 30.
3 shs Yellow Jacket at 650 per foot.
1 sh, Yellow Jacket at 655 per foot.
1 sh Yellow Jacket at 647½ per foot, a 30.
2 shs Yellow Jacket at 665 per foot, b 30.
1 sh Yellow Jacket at 657½ per foot, s 3.
2 sh Yellow Jacket at 670 per foot, h 30.
1 sh Yellow Jacket at 660 per foot.
1 sh Yellow Jacket at 660 per foot, s 30.
1 sh Savage at 1047½ per foot.
1 sh Savage at 1050 per foot, h 3.
1 sh Savage at 1050 per foot.
2 shs Belcher at 145 per foot.
10 shs Belcher at 142½@145 per foot s 3.
4 shs Gould & Curry at 715 per foot.
4 shs Gould & Curry at 710 per foot.
8 shs Alpha, G. H., at 100 per foot.
4 shs Alpha, G. H., at 102½ per ft, b 30.
2 shs Chollar-Potosi at 173 per foot, c.
5 shs Chollar-Potosi at 173 per foot.
4 shs Imperial at 95 per share.
3 shs Empire M & M Co. at 115 per sh.
10 shs Sierra Nevada at 3½ per share.
1 sh Bullion at 30 per share.
5 shs Confidence at 48 per share, a 30.
20 shs Confidence at 51@50 per share b 30.
15 shs Confidence at 50 per share.
20 shs Overman at 36 per share, s 30.
35 shs Overman at 40½@40 per foot, h 3.
5 shs Overman at 39 per share, h 10.
6 shs Overman at 38½@38 per share.
28 shs Overman at 38½@38½ per share.

Amount of sales.....\$ 82,569 00

Thursday, August 9.

Crown Point was sold at \$1,000@885, closing at \$925 asked. During the past month 1,649 tons of ore were reduced as follows: At Petaluma mill, 143½ tons; Marysville, 552; Golden Eagle, 505; Winfield, 143, and at the Crown Point 200 tons. The Rhode Island Mill is expected to be in operation on Monday next. Some 100 tons of ore per day are now being hoisted from the lower works.

Gould & Curry rose from \$700 to \$730, and receded to \$715. There is nothing new from the mine worthy of especial mention. The reserves in the upper level still hold out well.

Yellow Jacket advanced from \$680 to \$702½, receded to \$650, and rallied to \$660, seller 30, then was dealt in at \$650@660, closing yesterday at \$702@722. The product of ore last month amounted to 8,286 tons of second-class, and 28 tons of first-class. Some 8,450 tons second and 5 tons first class ore were worked, yielding in the aggregate \$281,706. The entire disbursements for July were \$201,826.93, leaving a net profit of \$79,889.66.

Ophir has been tolerably well maintained, receding from \$270 to \$260, then selling at \$265@262, and changing hands yesterday at \$265@272. The body of ore on the 9th gallery is diminishing rapidly but in stooping from the 3d floor of the 8th station the indications are more promising.

Chollar-Potosi is in rather less favor, dropping from \$182½ to \$170, rallying to \$174, and selling yesterday at \$180, buyer 5. The Santa Fe station is said to look very well, and is producing some good ore. The Belvidere continues to yield 25 tons of good ore daily. Operations below the Potosi tunnel have been temporarily suspended, in order to repair the Potosi shaft. The various drifts from the New Shaft are said to present no "encouraging features" as yet. During the week ending 4th instant, 831½ tons of ore were sent to custom mills.

Belcher has been active within a range of \$155@140, closing at \$149. Alpha rose from \$90 to \$105, fell to \$95, and closed at \$95 bid.

Empire Mill continues to be strongly held, and small sales were made at \$115 per share. At a depth of 190 feet from the surface, in drifting westward from the shaft some 70 feet, a body of good ore forty feet wide has been met with, which is at present yielding 75 tons per day to the Company's two mills. In drifting east 35 feet, and west 85 feet, at a depth of 685 feet, promising deposits of ore have also been found recently. The Company carried forward a surplus of \$16,000 at the beginning of this month, and the production of the mine will probably be materially increased in the future.

Imperial advanced from \$95 to \$99, dropped to \$94, and was dealt in yesterday at \$94 asked. There are no tidings this week from the mine. A dividend of \$6 per share was declared yesterday.

Overman has not fluctuated materially, and about 700 shares were sold at \$36@40½, closing at \$39 per share. Bullion is in less request, dropping from \$38 to \$25, seller 30, rallying to \$27½, and selling yesterday at \$25.

Confidence has improved a little, and small sales were made \$45@50, closing at \$50.

Daney was dealt in at \$5½@5¼, and Sierra Nevada \$2½@3¼. Fireman's Fund was sold at \$113 per share. California Steam Navigation rose from 75 to 80 per cent., closing at 80.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$404,672.

10 shs Bullion at 27 per share, s 30.
5 shs Bullion at 27 per share.
5 shs Bullion at 27½ per share.
5 shs Overman at 38½ per share.
15 shs Overman at 39 per share.
5 shs Overman at 40 per share b 30.
35 shs Sierra Nevada at 3 per share.
100 shs Fireman's Fund at 113 per cent.
\$5,000 Legal Tender Notes at 71½c.
\$5,000 Legal Tender Notes at 71½c.
\$50,000 Legal Tender Notes at 71½c, s 30.
\$15,000 Legal Tender Notes at 71½c, s 60.
\$10,000 Legal Tender Notes at 72½c.

AFTERNOON SESSION.

2 shs Savage at 1082½@1085 per foot, b 10.
1 sh Savage at 1055 per foot.
1 sh Yellow Jacket at 650 per foot, s 30.
1 sh Yellow Jacket at 650 per foot.
1 sh Yellow Jacket at 650 per foot b 30.
2 shs Belcher at 144 per foot.
2 shs Belcher at 141 per foot, s 10.
4 shs Belcher at 149@151 per foot b 30.
5 shs Belcher at 145@146 per foot.
4 shs Belcher at 146@147 per foot.
5 shs Belcher at 151@152 per foot, b 30.
5 shs Imperial at 95 per share, s 30.
5 shs Imperial at 97½ per share, b 3.
5 shs Imperial at 94 per share, s 30.
5 shs Imperial at 94 per share.
15 shs Overman at 40 per share.
5 shs Overman at 42 per share, h 30.
15 shs Overman at 41½ per share b 30.
5 shs Overman at 42 per share, b 30.
5 shs Overman at 40½ per share.
10 shs Overman at 40 per share, s 3.
10 shs Bullion, at 23 per share, s 31.
35 shs Bullion at 25 per share, s 30.
5 shs Bullion at 27 per share, b 10.
50 shs Lady Bryan at 1½ per share.
Amount of sales.....\$ 79,309 00

Friday, August 10.

86 shs Ophir at 270 per foot, h 30.
48 shs Ophir at 265@272½ per foot.
3 shs Savage at 1190@1150 per foot.
3 shs Savage at 1170@1090 per ft, s 30.
4 shs Crown Point at 935 per foot, s 30.
12 shs Crown Point at 885@900 per foot s 30.
22 shs Yellow Jacket at 715@705 per foot.
6 shs Yellow Jacket at 710@700 per ft, s 30.
4 shs Yellow Jacket at 725@720 per ft, b 30.
5 shs Bullion at 23 per share, s 30.
6 shs Bullion at 31 per share, s 30.
65 shs Overman at 38½@38 per foot.
5 shs Overman at 49 per share, b 30.
30 shs Sierra Nevada at 3 per share.
1 sh Cal Steam Nav Co at 80 per cent.
Amount of sales.....\$ 64,829 00

MINING SHAREHOLDERS' DIRECTORY,

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT OF ASSESSMENT.	DAY OF DELINQUENT SALE.	DAY OF PAYMENT.
Antioch P. Petrol. Co., Contra Costa Co., \$2—July 30—Aug 20			
Arizona Con. M. Co., \$50—Aug 3—Aug 20			
Astoria M. Co., Monterey Co., \$50—Aug 1—Aug 20			
Arizona Copper Co., Arizona Terr., \$50—July 7—July 20			
Arbitros, Mexico, \$100—July 12—Aug 15			
Belcher, Baldwin, and Abernathie Cn's, \$15—Aug 21—Sept 21			
Belcher Co., \$45—Aug 21—Sept 21			
Bunker Hill G. & S. M. Co., El Dorado Co., \$1—Aug 11—Aug 25			
Barroreco M. Co., Mex., \$100—Adjourned Meeting Aug 6			
Cosala S. M. Co., Mex., \$1—Aug 30—Sept 17			
Coahuila G. & S. M. Co., Mex., \$1—Aug 23—Sept 10			
Cordillera G. & S. M. Co., Mex., \$1—Aug 23—Sept 10			
Gorica G. & S. M. Co., Cor. Del. Nev., Ann. Meeting Aug 10			
Grant M. Co., Storey Co., Nev., \$3—Aug 23—Sept 12			
Crown Point, dividend, \$30 ft. Payable June 10			
Goldendene S. M. Co., Storey Co., Nev., \$10—Aug 10—Aug 25			
Hammond G. M. Co., Del Norte Co., \$1—Sept 7—Sept 25			
Del Norte Constock Co., Del Norte Co., \$1.45—Aug 3—Sept 24			
Daney G. & S. M. Co., Lyon Co., Nev., \$70—Sept 15—Oct 1			
Eagle Quartz M. Co., Amador Co., \$1—Aug 13—Sept 5			
Exchequer M. Co., Storey Co., Nev., \$2—July 31—Aug 18			
El Teate S. M. Co., Cor. Del. Nev., \$2—Aug 10—Aug 25			
Enterprise G. & S. M. Co., Meadow Lake, \$1.25—Aug 19—Aug 31			
Gold Hill Tin. G. & S. M. Co., Nev., \$1—Sept 4—Sept 25			
Great Central M. Co., Arizona Terr., \$1—Aug 3—Aug 27			
G.W. Washington I. & S. M. Co., Alp., \$1.30—July 28—Aug 20			
Gold Lake, \$20 ft. Payable June 8			
Hancock M. Co., Del Norte Co., \$50—Aug 31—Sept 15			
Hale & Norcross, dividend, \$100—Payable Aug 15			
Imperial G. & S. M. Co., dividend \$6 sh. Payable Aug 15			
Jefferson G. & S. M. Co., Yuba Co., Div. \$10 sh. Pay immediately			
Jeffrey Oil M. Co., Humboldt Co., \$20—Aug 21—Sept 13			
Kentucky G. M. Co., Cal., \$1—Annual Meeting Aug 22			
Kentucky G. M. Co., Calaveras Co., \$1—Sept 5—Sept 25			
Kohler Bros., Mexico, \$1—Special Meeting Aug 15			
Lady Bell C. M. Co., Del Norte Co., \$1—Sept 4—Sept 24			
Leland, Arizona, \$50—Aug 22—Sept 10			
Lady of the Lake, Arizona, \$50—Aug 22—Sept 10			
Lady Bryan, \$1—Aug 22—Sept 10			
La Victoria G. & S. M. Co., Maricopa Co., \$1—Sept 4—Sept 24			
Morning Star G. & S. M. Co., Alpine Co., \$1—Aug 13—Sept 4			
Nuestra Sta. de Guadalupe Co., Mex., \$1—July 31—Aug 13			
Northern American Tin, Huerfano, Mex., \$50—Aug 3—Aug 19			
Nacozari G. & S. M. Co., Mex., \$70—Aug 15—Sept 3			
Napoleon G. M. Co., Tuolumne Co., \$1—Annual Meeting Aug 13			
Norcross G. M. Co., Nevada, \$50—Annual Meeting Aug 13			
Old Colony S. M. Co., Nevada, \$50—Sept 7—Oct 5			
Peninsula M. Co., San Antonio Dist., \$10—Aug 10—Aug 23			
Patrolina and Dolores S. M. Co., \$1.25—July 21—Aug 16			
Rattlesnake G. & S. M. Co., Yuba Co., \$1—Sept 12—Oct 3			
Simpson W. & M. Co., Alpine Co., \$30—Sept 4—Sept 24			
Scott M. & E. Co., Humboldt Co., Nev., \$50—Aug 7—Sept 1			
Santa Cruz Pet. Oil Co., \$50—Aug 7—Aug 28			
San Marcel S. M. Co., Mex., \$50—Aug 1—Aug 22			
Sweet Vengeance G. & S. M. Co., Yuba Co., \$1—July 23—Aug 15			
Sierra S. M. Co., Huerfano, Nev., \$1—July 23—Aug 15			
Sierrita M. Co., dividend, \$1—Payable July 7			
Sierra Nevada S. M. Co., Nevada, \$1—Sept 8—Sept 25			
Sierra Valley G. & S. M. Co., Cal., \$1—Annual Meeting Aug 20			
Tuolumne Mountain G. & S. M. Co., \$1—July 22—Sept 11			
Trinifid G. & S. M. Co., L. C., \$3—Aug 27—Sept 8			
Trinifid G. & S. M. Co., L. C., \$1—Aug 27—Sept 8			
Union Mattell Oil Co., Humboldt Co., \$5—July 15—Aug 20			
Yellow Jacket S. M. Co., div. \$50 sh. Payable August 15			

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

United States 7-10ths.	76 1/2	76 1/2
Gov. Legal Tender Notes.	72	72 1/2
State Bonds, 7 1/2 cent.	81	83
San Francisco 10 1/2 cent.	100	105
San Francisco Bonds, 1855, 6 1/2 cent.	100	105
San Francisco Bonds, 1858, 6 1/2 cent.	100	105
San Francisco Bonds, 1858, 6 1/2 cent.	100	105
Sacramento City Bonds, 6 1/2 cent.	20	40
Sacramento County Bonds, 6 1/2 cent.	58	60
Marysville Bonds, 10 1/2 cent.	75	82
Stockton Bonds, 10 1/2 cent.	80	85
Yuba County Bonds, 10 1/2 cent.	80	85
Butte County Bonds, 10 1/2 cent.	70	80
California Navigation Co.	70	80
State Telegraph Stock.	30	31
San Francisco Gas Co.	125	130
Sacramento Gas Co.	75	75
Spring Valley Water Co.	64	65

RAILROADS.	
Sacramento Valley Railroad.	52
Omnibus Railroad.	52
Central Railroad Co.	42
North Beach and Mission.	42

MINING STOCKS.	
Alpha.	95
Baltimore American.	25
Bullion, G. H.	25
Belcher.	140
Confidence.	60
Ophir.	270
Gould & Curry.	700
Empire M. & M. Co.	115
Savage.	1200
Chollar-Potosi.	180
Hale & Norcross.	1650
White & Murphy.	3
Sierra Nevada.	715
Yellow Jacket.	38
Overman.	900
Crown Point.	925
Antelope.	94
Emeralda.	94
Real del Monte.	94
Buckeye.	94
Dick Siding.	94
Imperial.	94

San Francisco Market Rates.

WHOLESALE PRICES.	
FRIDAY, Aug 10, 1866.	
Flour, extra, per bbl.	5 00 @ 5 75
Do Superfine.	4 75 @ 5 00
Corn Meal, per 100 lb.	8 50
Wheat, per 100 lb.	1 50 @ 1 65
Oats, choice, per 100 lb.	1 40 @ 1 50
Barley, per 100 lb.	80 @ 95
Beans, per 100 lb.	3 50 @ 5 50
Potatoes, per 100 lb.	8 00 @ 14 00
Hay, per ton.	8 00 @ 10 00
Live Oak Wood, per cord.	8 00 @ 10 00
Beef, on foot, per lb.	6 @ 7
Beef, extra, dressed, per lb.	10 @ 12 1/2
Sheep, on foot, per lb.	1 00 @ 2 00
Hogs, on foot, per lb.	8 @
Hogs, dressed, per lb.	10 1/2 @ 13

GROCERIES, ETC.	
Sugar, crushed, per lb.	13 @
Do China.	11 @
Coffee, Costa Rica, per lb.	24 @
Do Rio.	23 @
Tea, Japan, per lb.	90 @ 1 00
Do Green.	70 @ 1 00
Hawaiian Rice, per lb.	9 @
Coal Oil, per gal.	7 @ 7 1/4
Candles, per lb.	18 @ 22

Ranch Butter, per lb.	32 1/2 @ 40
Butter, do.	30 @ 35
Cheese, California, per lb.	10 @ 17
Eggs, per doz.	40 @ 42
Lard, per lb.	19 @ 20
Ham and Bacon, per lb.	20 @ 21
Shoulders.	12 1/2 @ 15

Retail Prices.	
Butter, California fresh per lb.	45 @ 50
do pickled per lb.	38 @ 40
do Oregon.	35 @
do New York, per lb.	40 @ 50
Cheese, per lb.	15 @ 25
Honey, per lb.	30 @ 40
Eggs, per doz.	40 @ 50
Lard, per lb.	22 1/2 @ 25
Ham and Bacon, per lb.	22 1/2 @ 25
Cranberries, per gal.	75 @ 1 00
Potatoes, old, per lb.	— @ —
do New per lb.	3 1/2 @
Tomatoes, per lb.	6 @ 5
Onions, per lb.	6 @
Apples, No. 1, per lb.	3 @ 8
Pears, table, per lb.	8 @ 10
Plums, dried, per lb.	20 @ 22
Peaches, dried, per lb.	16 @
Oranges, per doz.	50 @
Lemons, per doz.	75 @
Chickens, apricot.	87 @ 1 12
Soap—Palo & C. O.	8 @ 10
Castile.	14 @ 15

San Francisco Prices of Copper Ores.

SAN FRANCISCO, Aug. 11, 1866.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent :

12 per cent. ore.	Per ton.	22 per cent. ore.	Per ton.
12 " "	22 50 " 3	18 " "	49 00
14 " "	24 00 " 4	19 " "	51 75
15 " "	27 00 " 5	20 " "	54 50
16 " "	29 75 " 6	21 " "	57 25
17 " "	32 50 " 7	22 " "	60 00
18 " "	35 25 " 8	23 " "	62 75
19 " "	38 00 " 9	24 " "	65 50
20 " "	40 75 " 10	25 " "	68 25
21 " "	43 50 " 11	26 " "	71 00

These prices, we believe, will be found substantially correct, and can be realized at this date.

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the Mining and Scientific Press, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

Preparing for Publication.

A complete History and Directory of the Central Mines of Colorado.

Central Mines of Colorado.

And the towns and cities in their vicinity.

PERCEIVING THE GREAT ADVANTAGE TO COLORADO a pamphlet, historical and descriptive of its central and most important mines would be at the present time, the subscriber has undertaken to publish such a work.

It is designed to fix for the future the discovery and early history of the mines, to sketch their progress and present condition, to give such statistics as are attainable with regard to their production, actual and possible; in fact, to disseminate throughout the East and in Europe accurate information respecting them. To relieve the tedium of such a work, interesting incidents illustrating the early manners and customs of the pioneers, and the gradual organization into its present existence of the first and always to be the eminently Rocky Mountain State, will be given.

It is also designed to contain a complete Directory of the towns of Central, Black Hawk, Nevada, Golden City, Idaho, Empire, Georgetown, Gold Dirt, and South Boulder; views of each of those places; separate views of the principal buildings, public and private; also views of mills and mines and of mountain scenery.

There will also be attached a Business Department, in which a limited number of advertisements will be inserted.

O. J. Hollister, of the Black Hawk Mining Journal, has been engaged to compile the body of the work—the historical and descriptive narrative. Having been here interrupted for the past six years, and mingled freely in perhaps every walk of life, he trusts he will be able to do the subject ample justice.

All old residents of this region who are familiar with the discovery and early history of the mines, or with interesting incidents of that indefinite time known as the "early day," will confer a favor on the subscriber by furnishing such information to O. J. Hollister, Journal office, Black Hawk, Colorado.

The work will be issued sometime during the month of August. Price \$2, bound in paper; in muslin, \$2 50.

Address, G. M. BINCKLEY, Central City, C. T.

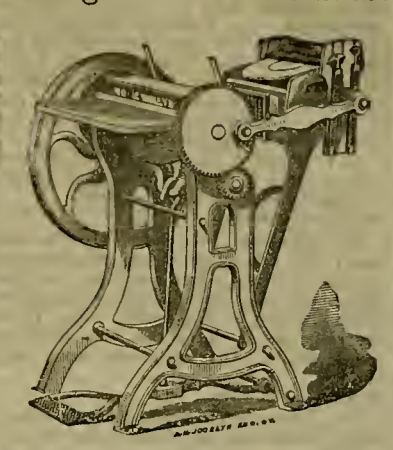
By Express.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co.'s tariff) on papers sent by express. If connecting express in the interior make additional charges, subscribers must themselves settle the same.

JOB PRINTING

—FOR—

THE PEOPLE!

Mining and Scientific Press



JOB PRINTING OFFICE,

505 Clay Street,

(Southwest corner of Sansome street, on 2d floor.)

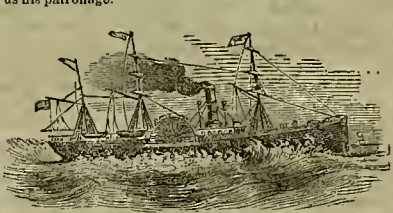
Formerly WATERS BROS. & CO.'S.

We are now prepared to offer customers the most favorable inducements to patronize our Book and Job Printing Establishment. Our office is supplied with an extensive assortment of Type, and the best style of Presses for good work and



CHEAP AND RAPID PRINTING.

Patrons will always find us well up to the times, ready to execute superior work, and furnish the same as cheap as any prompt and reliable firm in San Francisco. Our aim is to suit our customers in regard to style and price, and will guarantee entire satisfaction to every reasonable individual who may be kind enough to bestow upon us his patronage.



We give special attention, when desired, in assisting parties in making up or revising their copy. Particular care will always be given to the publication of

LAW BRIEFS, CERTIFICATES OF STOCK, MISCELLANEOUS BLANKS, BLANK BOOKS, MINING BLANKS,



BOOKS, PAMPHLETS, CARDS, CIRCULARS, MINING REPORTS.

Orders from the interior will receive prompt attention. We shall take care to secure correctness in all work executed for parties out of town. Small packages can be forwarded by mail at small expense.



City customers, or persons visiting San Francisco, are invited to call and examine our specimens, when they will be politely informed of our prices by the Proprietors.

DEWEY & CO., Proprietors,

Mining and Scientific Press Patent Agency, Newspaper and Job Printing Office,

505 Clay Street, San Francisco.

A. T. DEWEY. W. B. EWER. C. W. M. SMITH.

Pacific Mail Steamship Co's

THROUGH LINE TO NEW YORK,

Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers for ASPINWALL for NEW YORK.

On the 10th, 18th and 30th of each month that has 30 days.

On the 10th, 18th and 30th of each month that has 31 days.

When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departures of 14th or 18th connect with French Transatlantic Co.'s steamer for St. Nazaire, and English steamer for South America.

Departure of 10th connects with English steamer for Southampton, and P. R. Co.'s steamer for Central America.

Departure of the 30th connects with English steamer for Panama, the port of the Panama Railroad.

The following Steamships will be dispatched on dates as given below:

August 15th—SACRAMENTO. Capt. J. M. Gavarly.

August 30th—GOLDEN AGE. Capt. E. S. Furnessworth.

Connecting with NEW YORK, Capt. Brandy.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Inman Line, can be obtained at office P. M. S. S. Co., San Francisco.

For Merchandise and Freight apply to Messrs. WELLS, FARGO & CO.

The splendid steamship COLORADO will be dispatched for CHINA on TUESDAY, January 1, 1867.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Loldesdorf streets.

OLIVER ELDREDGE, Agent.

FAIRBANK'S

RAY, COAL, CATTLE, MINERS', AND GROCERS' Scales.

We would call the attention of Miners to our large scales for weighing loaded wagons, of from 10,000 to 20,000 lbs capacity.

Manufacturers' Branch House.

FAIRBANKS & HUTCHINSON, 151 1/2 3m.

WM. H. KEITH & CO., Chemists and Apothecaries,

PROPRIETORS AND MANUFACTURERS OF

WM. H. KEITH & CO.'S WINE OF PEPERINE, OR RENE-Net Wine, a new and efficacious remedy for Dyspepsia, Gastralgia, etc. WM. H. KEITH & CO.'S GLUCOCOLIN, a new and valuable compound of God Liver Oil, put up in glass jars. WM. H. KEITH & CO.'S LEMON APERIENT, or Purgative Lemonade, an agreeable, cooling and active purgative, or mild laxative, as required. WM. H. KEITH & CO.'S SAFORACIOUS TOOTH POWDER, DEVINE'S PITCH LOZENGES, for the cure of coughs and colds. WM. H. KEITH & CO.'S Florentine Tooth Wash. WM. H. Keith & Co's Granula Effervescent Citrate of Magnesia. WM. H. Keith & Co's Rosemary and Castor Oil Hair Invigorator.

WM. H. Keith & Co. being in frequent communication with European and American Markets, are continually renewing their stock of Pure Drugs, Rare Chemicals, Fancy Goods, and Toilet Articles, Pure Oils, etc. They also give special attention to replenishing ship chandlery chests.

Also, just received, a large and well-selected invoice of HERNSTEIN'S CELEBRATED INSTRUMENTS, consisting in part of Amputating and Obstetric sets, Pocket Cases, etc. Physicians and others at a distance ordering these instruments, can depend upon having their orders filled with the same regard to QUALITY and PRICE, as though obtained in person, and we give particular attention to packing and forwarding the same.

WM. H. KEITH & CO., Apothecaries' Hall, No. 621 Montgomery Street, 151 1/2 3m Between Clay and Commercial, San Francisco.

BROWN & BEADLE,

Offer their services to INVENTORS AND THEIR ASSIGNEES,

—AS—

PATENT SOLICITORS.

They will make Preliminary Examinations in the Patent Office, with a view to ascertain the Feasibility of any Invention that may be submitted to them for that purpose; will prepare the necessary papers for those who wish to make Applications for

Patents for their Inventions,

—OR FOR—

EXTENSIONS OR REISSUES OF PATENTS

Already granted; will act as Attorneys in presenting Applications at the Patent Office, and in managing them to a final issue; will draw up Assignments; will examine into the condition of Rejected Applications when desired to do so, and undertake the prosecution of such as may be considered patentable, and do whatever else is

Mining Summary.

CALIFORNIA.

Alpine County—

From the *Alpine Miner* of August 4th, we clip these items: Messrs. Kustel and Zunny have made arrangements to work George Washington ore, as well as the ore from the Morning Star. The mill will be in running order, with furnaces, etc., in from six to eight weeks. A sample of ore now before us, from the American mine, shows no portion of the vein stone but is literally a mass of ore; copper predominating by weight, but the black sulphurets of silver forming so large a portion as to insure its going well up in the hundreds in the precious metals. At this mine an engine and hoisting works will be put on soon to sink a permanent working shaft to strike the lode about a hundred feet deep on the dip. The Sonoma company's shaft is now down ten feet. The shaft on the I.X.L. lode is down sixty feet. They will send pay ore to the mill. On the first of August the Morning Star mine passed into the hands of Messrs. Kustel & Zunny, who have entered into a contract to take out 10,000 tons of ore at their own cost, and pay the company for the same at the rate of \$17.50 per ton, with the privilege of another lot of 10,000 tons on the same terms.

The people of this county have discovered that the secret of their small returns, while assays of the same ore were constantly showing it good, is that the ores contain so large a percentage of copper and other base metals as to be entirely unmanageable by the ordinary pan process of amalgamation. The *Union* says: "There are parties now here who, we believe, understand their business, and who assure us the working of their ores by roasting and the Frieburg process will prove a success, and with our facilities for fuel and water-power need not be too expensive for even a common class of ores. Roasting and barrels, or smelting, will effect something for Alpine, and the time is near at hand."

Amador County—

The *Ledger* of the 4th instant has these items: No mine in Amador county shows more flattering prospects than the Golden Gate. Two tunnels are being run into the hill along the ledge, and we were shown some rock taken from the upper tunnel a few days since that for richness we have seldom seen equaled, if ever surpassed. The distance from the mouth of the tunnel where this rock was taken out is probably about one hundred and fifty feet. The ledge there is about 2½ feet wide—the rich streak being some eight or ten inches in width. Dr. Veatch, a gentleman of much experience in the working of sulphurets, is now erecting the necessary machinery, and will soon commence operations at the Oneida mill. Last week we said that Meader & Co. had "leased the Coney mine." We should have said that they had leased the mill and contracted for all the rock taken out of the mine for one year. Mr. Ambler is now engaged in putting in additional machinery, and will soon have the mill in perfect order for working the rock and sulphurets.

Butte County—

The *Record* of the 4th inst., says: Forhestown is making progress. The quartz mill of Messrs. Parks & Platt, will, we understand, commence crushing on Monday, with all the modern improvements. Their lode is a rich and extensive one. There are other ledges in that vicinity, which are being prospected and prepared for working. Messrs. Plum, Harris, and Maddox & Flint, and others, are at work on ledges with a view to the erection of mills. A vast bed of iron has been found outcropping in this county. Parties are now at work upon it, and in a short time we shall be able to make a full and correct report concerning it. From present information, it is believed that the county has ore sufficient to furnish iron for the Atlantic and Pacific railroad. Specimens already in hand yield about 90 per cent.

A correspondent of the *Marysville Appeal* speaks of Oroville in the following words: "The neat white cottages have been abandoned or removed. The streets which were trodden daily by thousands are to-day as green as a clover field."

Calaveras County—

The *Courier* of 4th inst., has these items: Work has been resumed in the Hardy mine, Murphy's. The workmen in the Buckfield copper claim, situated near San Andreas, have laid open a lead two feet wide. We learn that the lead in the Antelope mine continues to improve the deeper the shaft goes down.

The *Chronicle* says: At Railroad Flat, Post & Co. have had more rock crushed at Harris' mill, since our last issue, which averaged fully equal to their first crushing—\$40 per ton. The utmost activity prevails among the quartz miners in that region.

The *Register* has the following: Eighty tons of rock from a claim near West Point, a few days ago, yielded \$11,000. Very few of the veins in this vicinity have been prospected

to the depth of 100 feet. They have usually been worked until the water has rendered it necessary to erect machinery, or the rock has become hard and more difficult to work, or has failed to yield well, and then abandoned for some other discovery nearer the surface. But very many of the veins, as far as they have been worked, have proved to be extremely rich. The shaft on the Mina Rica is down about 170 feet, with a vein four feet wide from wall to wall. The Luckwood is down about 100 feet, with a vein three feet wide, and the Austrian has a shaft 80 feet deep, with a vein of two feet. The rock from these claims, or at least from the first two, yields about \$100 a ton, but the expense of getting the rock out takes a large margin from the profits.

C. T. Meader & Co. shipped over 1,200 tons of copper ore from the Union mine to San Francisco during the month of July.

Mariposa County—

The *Stockton Independent* of 4th inst., says: The first lot of copper ore, consisting of nine tons and a half, from the Ne Plus Ultra mine, Chowchilla, Mariposa county, arrived yesterday by Blanchard's team. There are sixty tons of ore at the mine ready for transportation. The ore assays about forty per cent.

Mendocino County—

The *Democrat* of August 30, has the following: It may not be generally known that Mendocino contains within its borders gold-fields probably as rich and vast as any other county in the State. During the rainy season, with but the rudest implements, men have been known to make good wages in prospecting various gulches in the vicinity of Calpella, and with sufficient water for panning purposes, there is not a shadow of a doubt that magnificent returns would be obtained for the labor and capital expended.

Nevada County—

We clip the following items from the *Gazette*: We are informed that the Mattingly ledge, situated about a mile and a half southeast of Nevada, has recently been sold to San Francisco men. We have not learned the amount paid. The ledge was mostly owned by Loutzenheizer, of Grass Valley, and Major Murdock. We learn that the Harmony company, who carried on operations quite extensively some years ago, near the head of Rock Creek, have lately made a location so as to extend their claims entirely through the ridge. They purpose now, as soon as they can make the necessary arrangements, to erect hoisting works on the south side of the ridge. The owners of the "Jim," near the head of Little Cañon Creek, owned by Hunt and others of Grass Valley, have out about 100 tons of rock, which they intend to have crushed by the Star mill. We were shown, on Saturday afternoon, two fine lots of gold dust, one taken from the claim of Binsley and others on Kentucky Flat, and the other from the Illinois Ravine claims, owned by the same parties. There was about \$5,000 in each lot, that from Kentucky Flat being composed mostly of coarse gold and specimens. The mill erected by Hawley & Bros., on the Eureka, was started upon the 6th instant. A company is now engaged in erecting works at the old Canada Hill mill, for the reduction of sulphurets by means of super-heated steam.

The *National* says the new mill of the Union Hill company, after a run of less than two weeks, crushed sufficient rock to make a handsome gold bar weighing about four hundred ounces, and valued at over seven thousand dollars.

Soon after the report in regard to the discovery of the Italian ledge became circulated, says the *Transcript*, a lady, whose house is located on the ledge, went to work in her cellar, and after digging away two weeks found the lead. The rock presents an excellent appearance, and will no doubt prove rich. For several days the lady has had two men at work taking out rock and opening the lead.

Three lumps of gold, weighing in the aggregate 539 3-5 ounces, worth \$18.50 per ounce, were the result of a run of four days and thirteen hours, in Brown & Co's cement claims, near You Bet.

Excelsior.—The *Meadow Lake Sun* says: The California company have had a general settlement; also, elected a new superintendent. The mill will again start up on Monday next. The mill of Parsons & Co., now in course of construction at the town of Carlisle, will start up next Thursday, and will crush ore from the Grant ledge. This ledge is located on Old Man Mountain, and is regarded as one of the richest in the district.

Houses at Meadow Lake for which \$100 per month was refused a month since, are now hiring tenants at \$25.

Shasta County—

The *Courier* of 4th inst., says: We understand that the workmen in the lower tunnel of the Williams & Kellinger mine have recently tapped a large stream of water, which, to some extent, interferes with their operations.

A correspondent of same paper, writes from Roaring River, July 29th: "I hear a great

deal of discussion about the South Fork silver mines, and the prospect of getting them opened. The Chicago were offered \$10,000 for their claim, but refused it, demanding \$30,000. My own opinion is, that they have rock enough in sight to more than pay the \$10,000, over and above expenses of getting it out; and the claim would then be worth more, thus opened, than at present. The same will apply to the Big Central, Ohio, Crystal, and others. Let the claims be worked so long as rock can be obtained that will pay for shipping, and when it will not pay that, why, abandon them, for they are worthless to poor men, (and I might add,) or anybody else."

Sierra County—

The *Messenger* of August 4th, says: The continued and unexampled success of the Sailor quartz company, previously alluded to, has had a salutary effect on our formerly lethargic population. We hear that several companies, located on different veins in the vicinity, have commenced work in earnest, and are now quarrying ores which they propose testing at custom mills. We have visited several of the properties alluded to; some of them show rich prospects, and in no instance have we failed in getting a good working result. We have seen a rich specimen, about the size of a man's head, from the Sailor ledge, together with smaller specimens from the same, that are full of gold. This company cleaned up after a second short run, doing better than at first.

The Good Hope boys brought down some more of their rock a few days since, in which numerous fine particles of gold are visible. We crushed a few ounces in which no gold could be seen, and found it very rich. The boys are taking out rock for a working test, which will probably be crushed next week. A friend over from Allegheny reports the finding of a rich quartz ledge in that vicinity a few days ago. Some of the rock crushed prospecting amazingly. Some new gravel diggings have been discovered on the head of Rock creek, back of the old Mount Vernon claims. The claims pay well as far as prospected. Wilmarth & Cottle, and others of Howland Flat, are working the Plymouth Rock claim at Hog Cañon, the prospects of which are very flattering, we are told. Other parties in the cañon are pounding up boulders and float rock in hand mortars and making it pay. We visited E. Hall's quartz mill a few days since, and found things working admirably. This was formerly the Wheeler mill, and contained eight stamps; four only are now running. The mill is working on Sailor rock. Considerable excitement was created a few days since near the southern portion of the county, by the discovery of petroleum in quantities that is believed will pay well. Claims were being rapidly taken up when our informant left. Forty or fifty lengths of the Magenta flume were torn down and burned one night last week. The parties engaged in this business are supposed to be the men who were lately swindled out of their pay by the sale of this property. The old mill at Gold Lake has been refitted and will soon be running. There are sixteen men employed.

Trinity County—

A letter to the *Journal* from Union Hill, July 29th, speaks of a new excitement in placer mining there. He says: We ran a tunnel into the hill forty feet, on color, and the next forty prospected from fourteen to thirty cents to the pan, and this so very uniform that it created an excitement. Everybody thought we had struck it rich, and so did we. The mountain was immediately claimed for a mile or more, and the work of shaft sinking and tunneling commenced all along the ridge.

A company of Chinamen recently purchased the claim of Mertz & Co., at Cope Horn Bar, paying a good price therefor. The boys thought they had done well, as they were unable to make more than three or four dollars a day to the hand. Soon after the Chinaman went to work it began paying from six to ten dollars to the man, and bids fair to keep doing so.

Tulare County—

The *Times* of the 4th instant says: For some days past the roads have been lined with teams, both going to and returning from our mining districts. Several very heavy laden teams with machinery for Kelso Cañon and White River passed through town the other day.

Tahama County—

The *Citizen* (late *Courier*) of August 4th, gives these items: We learn that General Darrow and son took from their claim, near Tuttle town, last week, three and a half pounds of gold. Messrs. Evans and Shanks were in town last week, and exhibited some very rich specimens from the Moore lead. On a vacant lot on State street, immediately opposite the *Citizen* office, Mr. A. Levy washed out eighteen pans of dirt, on Thursday last, and obtained \$6.50 in gold, being an average of a fraction over thirty-six cents to the pan. Twelve tons of rock taken from the Hazel Dell claim, during the past week, yielded \$360. This claim is owned by Messrs. Bacon & Co., and is located some seven miles east of this city.

They are now down about ninety feet, and have a well-defined ledge from ten inches to three feet in thickness. The company have a 5-stamp mill, with plenty of power, and are now sinking a shaft to tap the ledge at a greater depth. Messrs. Cunningham & Co. got the privilege of running a race through an unoccupied city lot, for the purpose of carrying off the tailings from their claim, agreeing to wash the dirt excavated in running the race, and allow the owner of the lot to have the proceeds. The race was completed, and the gentleman cleaned it up on Monday last. He is reticent about the matter, but is known to have obtained more than one hundred dollars.

A communication in same paper, alluding to Springfield Flat, says: There are yet many rich spots among the lime boulders hereabout, where "lucky strikes" will continue to be made for years to come. At the depth of twenty feet is a soft and spongy clay, in which are imbedded the bones of the mastodon and other animals. Some enterprising capitalist will, eventually find, far below this stratum of clay, a bed of sand and gravel, intermingled with rich deposits of gold.

Yuba County—

The *Marysville Appeal* has these items: The Jefferson company, at Brown's Valley, after a run of thirteen days, cleaned up on the 5th instant \$3,000. The Jefferson is one of the permanent mines of the State, and it is believed, after her new machinery gets in operation, that a monthly dividend of fifteen dollars per month will be declared. The mines at Brown's Valley are increasing in general favor. The Rattlesnake (Old Yuba) is at work with the best prospects. Forty-seven shares in the Pennsylvania company, Brown's Valley, sold yesterday for \$2,350, or fifty dollars per share.

NEVADA.

Washoe—

Statistics lately gathered show that the forty-six companies owning the Comstock lead have excavated about forty miles in tunnels, drifts, etc.; that there are 44 engines for hoisting and 76 for reducing ores belonging to the lode; and that 32,000 cords of wood, at \$16 per cord, are used annually.

At Bassett's mill, in Six-Mile Cañon, one hundred and fifty pounds of amalgam, which was draining in a bag, was carried off bodily by some adroit thief, while all hands were at work close by. So says the *News*.

Reese River—

The *Reveille* has these items: The new machinery of the Morgan and Muncey is of the most substantial character, and the best results are anticipated from its working. The last lot of twenty-four tons of ore from the La Platte company's mine in North Twin River District, had arrived at the Keystone mill. Seven tons of High Bridge ore had passed through Austin on its way to the Butte mill in San Francisco Cañon. It was from the claim of Dr. Geller. We were shown a beautiful specimen of copper ore from the Bolivia District, about eighty miles nearly due west of Austin. It was obtained from an immense vein of twenty feet in thickness, and is a mass of red oxide spangled with bright yellow sulphurets of copper.

The same paper has an editorial on "opportunities of capital," urging, with its usual force, the rare chances for investment which that region offers. It says: At Cortez district is the most singular instance of vast treasure lying neglected that we know, and that it should thus lie neglected is almost too much to believe. It is not only at Cortez that we can point to such neglected opportunities, but throughout the whole region, from the Humboldt to the Colorado. In every district are veins of undoubtedly great value, lying unproductive, and begging for the necessary capital to make them real mines. It requires only careful examination by persons of experience and good judgment in making purchases, to be followed by good management, to make investments certain to return largely for the outlay. For this there are thousands of opportunities, which we sincerely believe to be the best of any country, now offering to capitalists in the mines of Reese River.

From the *Nye County News* we clip the following: The Knickerbocker mill is now constantly running on ore from the Great Eastern claim, which the Knickerbocker company own. A lot of sixteen tons was crushed last week which gave a fine bar valued at \$827, being over \$50 per ton. This lot was taken just as it came from the ledge. Another lot of several tons gave a pulp assay of \$87. Dr. J. G. Riddle left upon our table some fine specimens of ore from the Hagerstown ledge, in Last Chance Cañon, Twin River District. The ledge is six feet wide, with nearly two feet of fine galena ore, and is considered a valuable claim. We still continue to hear good reports from Hot Creek District. The Pioneer mill was bid in by George W. Veatch, for the benefit of creditors, for \$8,845.12. In Twin River everything is stirring and brisk, a large force being at work upon the Murphy company's mill and mine, and much work being done upon

other mines. In Philadelphia District there are near two hundred men, all busily engaged upon the ledges. A large force is at work upon Buel's mill, which will be ready for operations in about two weeks. In San Antonio District the prospects of the miners are most encouraging. Messrs. Courter and Rigby expect soon to have a large force at work. Joe Sabon, who left here some three weeks ago on a prospecting trip in the eastern part of the county, has discovered three immense ledges, which he reports as a perfect mountain of silver. An assay of ore from the Great Eastern gave \$810 to the ton. Belmont is to be the great place in Philadelphia District. All look forward with impatience to the result of ore crushing by Buel's mill, soon to be started. If the yield is good there will be a rush to this place. We have been shown a letter, received by Mr. Davis from George Ayers, in which he says they discovered a fine gold bearing ledge, about sixty miles below Silver Peak, but owing to the Indians becoming troublesome, were obliged to abandon it, though they were at the ledge four days, and think they have a good prospect. The Mount Vernon company, in Mammoth District, are pushing work on their claims, and Mr. Howard informs us that a short time before he left, a fine ledge, showing splendid ore, was struck in the large shaft. The Knickerbocker mill is a splendid affair. It runs so quietly that conversation can be carried on in any part of the building with ease.

Humboldt.

The Register of July 28th has these items: The workmen on the Gem are taking out quartz for the Pioneer mill. Were working, a few days ago, in a vein of richest chloride—from which we expect to learn of a big return. Work was commenced on the North Star—by shaft following the ledge. We saw samples of the ore having threads of pure silver.

Esmeralda.

The Union of August 4th speaks of a new quartz discovery which created a great excitement in Aurora. The stampede commenced the very night the news was received. The most extravagant rumors were afloat. The locality is about three miles east of the summit of the high range of mountains between the Sweet Water Creek and the East Walker. The editor made the trip of fifty or sixty miles to satisfy himself of the truth in regard to the matter, and thus states it:—

We think it quite safe to say it is not less than seven and a half feet thick. It is astonishingly rich, and does not seem to contain a pound of waste rock, but shows the pure gold in every part from one side to the other. In some places it is so decomposed that it can be shoveled like gravel, and in these places the gold is very abundant, and can be collected by washing in a pan as in placer mining, each handful of dirt and gravel yielding almost a small spoonful of pure gold. Most persons who have seen the rock say it will pay \$1,000 per ton, and very few estimate it as low as \$500. It is unquestionably one of the richest mines ever discovered in the State, and the only doubtful question affecting its value now is its extent and permanency.

Pahrump.

The Reese River Reveille of August 2d, says: This district seems to be emerging from the clouds which have long obscured it. Work is being vigorously prosecuted by a number of companies. About one hundred and fifty men are constantly employed. A consolidation of several companies has projected a tunnel to pierce Silver Hill, upon which the best ledges yet discovered in the district are located. It is estimated that the tunnel will cut a number of veins, including the Illinois, in a distance of three hundred feet. The Illinois is a splendid ledge of fourteen feet in thickness. Before our informant left the district, information had been received that two 10-stamp mills were on the Colorado river detained by high water. They are designed for the Globe and International companies. A 5-stamp mill is also being brought from Los Angeles.

A private letter from New York, says: The Dahlgren company of New York, have commenced putting up furnaces and opening their mines, and Mr. Raymond, who represents another New York company, is on the road here with machinery.

Black Rock.

We copy the following from the Sage Brush, showing still richer workings of the Black Rock ore: "Messrs. Whiting, Nicoles and others have just returned from Washoe. They give a most flattering account of the recent working of Black Rock ore at Dall's mill. The Black Wax, worked up to the astonishingly high figure of \$700 to the ton; another lot of 500 pounds of Snow Storm ore, yielded at the rate of \$171 to the ton.—Marysville Express, Aug. 4th.

Owens River.

Kearsarge district is beginning to make a good show of silver bullion. The first run of Paul's mill produced between three and four hundred pounds. Some of the lodes in the vicinity are selling at \$100 per foot cash.

COLORADO.

The Denver News of July 25th, has these items:—Mr. J. W. Smith, the President of the Bohemian Mining and Smelting Company, has shown us a letter from Mr. Henry Cruw, superintendent of the company's works at Georgetown, dated the 15th, in which he says: "The furnace and smelting of the ores has proven a perfect success. The second charge, or run, we obtained thirty-three per cent., or one pound of metal from each three pounds of ore." We have seen the certificate of a second assay of a piece of the metal of the first run from this furnace, which shows a yield of \$3,362.29 per ton of 2,000 pounds. The mine now worked is called the H. W. Beecher lode, has a crevice of five feet in width, with a streak of eighteen inches solid galena, which yields 40 per cent. of metal. This metal, by assay at the U. S. Mint, gives a return of \$2,978.09 per ton of 2,000 pounds, in silver. No trace of gold. The capital stock of the company is \$50,000. The entire cost of the works, now nearly in running order, is \$8,000.

We have reliable intelligence from the Bear River country, dated July 15th. Our correspondent says: "There has been some prospecting done here. Parties who have come prepared to work have got their sluices about nearly ready to run, but they have none of them struck pay that will justify working. There are some six or eight gold-bearing gulches discovered and claimed, that prospect well on the surface, but on going down the dirt fails to yield a color.

The Register says:—J. T. Lynch is just in from Snake River. The mines are in a very encouraging stage of progress, much valuable ore being corded up at the several shafts. There are now at the Montezuma and Peru about ninety people at work. Mr. Lynch is sinking on the Suky lode. He has it opened for fifty feet along the surface, and has heavy compact galena throughout. The crevice is one of remarkable width. He has his furnace commenced, but it will not be completed before the 1st of August. The furnace recently erected by A. M. Cassidy is at work. Reicheneker informs us that he has made seventy-six assays, from as many different lodes, in the Snake River district. Two of these assays gave no silver. One gave three thousand five hundred dollars per ton. One, one thousand three hundred and seventy-nine dollars, and another eight hundred and one dollars per ton. The average yield was one hundred and twenty-five dollars per ton.

IDAHO.

The Owyhee Avalanche of 21st July, has these items; The Ainsworth mill has been thoroughly overhauled and new machinery added. It was to commence running in a week. The N. Y. & O. Co. are enlarging the settling capacity of their mill. There will be eight more settlers added, and the building enlarged to make ample room. For a time to come, the mill will run on Poorman rock; also the Grenzaback. We hear that it is rented to Moore & Fugus, for the summer. The Morse & Vass mill is engaged in crushing Whisky Gulch ore. This ledge contains some remarkably rich rock. A force of men have for some time been sinking on it, and they believe it will prove to be valuable. The Dardanelles mine is being worked from near the center of the ledge, by a shaft which is now forty feet deep, and is being sunk deeper every day. The ore looks richer as it is found deeper. That now taken out is being crushed at the Cosmos mill. They will test one hundred and twenty tons, and if the yield is satisfactory, a nearer and better road will be constructed via Long Gulch. The Varney & Carrico ledge, situated on Florida Mountain, was discovered July 10th. Nine ounces of the float quartz gave two dollars in gold by hand process. Rock from the ledge does even better than that. The shaft is now down ten feet, and a ledge of thirty inches quartz developed. We understand that the noted case of Hays & Ray vs. Poorman—properly, Wm. M. Willis vs. P. F. Bradford et al.—has been arranged between the principal parties so the mine will be temporarily worked and proved up. It has been a very exciting one among all classes and conditions of our citizens, in consequence of its fabulous richness. Messrs. Bell & McCann have taken gold dust enough out of their claims in Jacobs' Gulch this summer to make the eyes of an old forty-niner bug out. We saw, on Wednesday, a partial clean up of one week's run, and there must have been \$2,000. As much remained in the quicksilver, as we only saw the bright gold from the upper sluices. There is considerable coarse gold in it—many pieces weighing from two to twenty-five dollars.

Same paper of 28th, says: At no period in the history of Owyhee, has there been so much real labor done on ledges, as at this time. The Cosmos company must have fully one hundred men engaged in mining; the New York and Owyhee, half as many—probably more; the New York and Astor nearly fifty; the Lincoln forty to fifty; the Surplus Oro

Fino, as many; and Moore & Fugus about one hundred and fifty. The War Eagle company have let a contract and men are sinking a shaft on their purchase—the Revenue.

There are thirty or more men engaged in taking out Poorman ore. We got an inside view on Wednesday. We call the attention of the owners to St. Luke XVIII Chapter, 24 and 25 verses. We know several persons who talk as though they would be willing to risk their chances of salvation for fifty feet in this mine. We get did two feet in it—but were obliged to get them out again. Those who think the Poorman is "pocket" may as well dismiss their fears. The Richman is on the north side of War Eagle. A tunnel is being driven in the discovery and a shaft on the first extension north. A ledge of decomposed and solid quartz intermingled with granite can now be seen. At the further end of the cut the granite is giving way and more solid quartz is showing itself. The decomposed quartz is full of free gold which is easily obtained by panning. The New York and Astor company are now giving the Trook and Jennings ledge a thorough and systematic course of prospecting. The old shaft is being cleaned out, straightened, timbered and sunk deeper; also, a new shaft is being sunk about seventy-five feet north of the old one. The latter is already down fifty feet and the ledge is one foot wide. The same company are prospecting the Morning Star, 2d South extension. The ledge is narrow, but widening.

The World of 14th July, has these items: The water in all the ditches about Idaho City is rapidly drying up. Alturas (county) prospects have brightened much of late. The newly discovered ledge—the Leonora—is attracting general attention. We were shown, last Saturday, by one of the owners, several pounds of the rock from this ledge. The specimens can be described as sheets of gold with a little quartz holding them together. They were taken out at the depth of twenty-eight feet. The portion of the ledge at this surface was not wider than the back of a butcher's knife; it is now about two inches. The owners estimate the value of rock thrown out in a few hours, one day last week, at fully ten thousand dollars. The ledge is in the Yuba district, and is near the Atlanta. It has caused a great excitement among the quartz men of the district, and extensions have been located all over the country.

The Union of same date, says: S. G. Rosenbaum, of this city, has purchased the 10-stamp quartz mill lately placed on the eastern extension of the Gambirinus ledge, by Lambing and Baily. He is now the sole owner of the mill, and intends to keep the stamps at work steadily triturating ores from the Gambirinus and Junieta leads, as he owns three-fourths of each of those leads.

MONTANA.

From the Post of July 21st we gather the following:—In Alder Gulch, Mamma & Co., last week, employed fourteen hands, and the product of their labor amounted to \$2,870. Childs & Co., with three hands, took out \$600. Myers & Co., last week, with four hands took out from \$500 to \$600. Bay & Co., with seven hands, cleaned up \$900. Other parties on claims in the vicinity of those above named, state the result of their labor at about the same relative amount for the force employed. In Nevada District probably one hundred and fifty men were at work last week, the pay averaging from five to eight dollars per day to the hand. The building is ready for the Excelsior's machinery, which will arrive next week.

Letter to same paper from Prickly Pear City, July 6th, says:—

"The water has been very high, rendering the sinking of shafts in the gulches a matter of impossibility. One company backed down, but the other, Mr. William Alexander's, are still at work, and are much encouraged from the prospects obtained.

Good prospects have been obtained on the bars, on which the city is built, and a company of enterprising Germans have taken up the ground and have commenced the building of a large flume across the creek, through which the water from the ditch on the east side will be brought on to the bars.

Bannock letter says: Times begin to improve. Every low day some are returning from other camps to their old camping ground.

The Seneca Falls mill of 15 stamps run forty-seven days at an average of \$263 per day. The mill was unsupplied with any other than the old process of saving gold on the plates. The quartz was taken from the Kearsarge, Cavarone and Keokuk lodes.

WASHINGTON.

The Vancouver Register says:—Every test of rock from any of the ledges thus far has disclosed the presence of gold and silver, and that too in paying quantities. Work is progressing on several of the ledges. An arastra is running on the McConnel ledge, the Rising Sun and Morning Star Company is pushing forward its work, the Columbia ledge is being

sunk upon, and Mr. S. D. Maxon is manifesting commendable enterprise in opening another ledge which is thought to be rich. We have repeatedly said we would not be accessory to raising an unfounded excitement, and shall only state facts as they are made known. We believe in the Vancouver mines.

SAN FRANCISCO.—Perhaps no better idea of it can be obtained of the rapid growth and present importance of San Francisco, than by considering the fact that it is the fourth Collection district in the United States, and that an increase of only fifteen per cent. would be required to make it the second.

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W. B. EWER,.....SENIOR EDITOR.

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Mr. A. C. Knox, is our fully authorized Traveling Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
SAN FRANCISCO, Jan 11th, 1866.

Mr. I. N. Hudson, is authorized to solicit subscriptions, advertising, etc., for the MINING and SCIENTIFIC PRESS, in San Francisco, and to receipt for the same.

It is impossible for editors to know ALL the merits and demerits of their correspondence, consequently the reader must not receive the opinions of our contributors as our own. Intelligent discussion is invited upon all sides and the evidence of any error which may appear will be received in friendship and treated with respect.

San Francisco:

Saturday Morning, Aug. 11, 1866.

UNPOPULARITY OF THE NEVADA STATE MINING LAW.

The mining law passed by the last Legislature of the State of Nevada, appears to be received with general disfavor throughout that State. We have already alluded to the fact of its being practically repudiated by the miners of Union district, assembled at Ione City. The Reese River *Reveille* says that the law is practically ignored in that district. The Humboldt *Register* reports the proceedings of a meeting of the miners of Star district, at which, after setting forth at considerable length the objections to the law, the following resolution was adopted:

Resolved, That as a matter of policy among ourselves, we will respect each others' claims, in this district, without the payment of such tax for assessment dues: *Provided,* That the erecting of monuments, filing of descriptive notice, and doing of assessment work, where such work is required, shall have been complied with in accordance with said State Mining Law.

The objections urged against the law are the onerous taxes imposed for the purpose of establishing a mining school, which the miners think will never be organized, and the supposed unconstitutionality of the law from the fact that it is partial in its operations. Storey, the most important mining county in the State, being excepted from its operations. Then, the regulations for securing title to the mines are so numerous, complex and diverse, as to be almost unintelligible to those concerned.

MAGIC PHOTOGRAPHS.—Professor Chichi, of St. Ignatius College, on Market street, in this city, called upon us a few days since and exhibited quite a number of magic photographs, which he had produced from the formula for their preparation which we gave in our issue of July 7th. The process of bringing out these photographs, and the surprise manifested at the unexpected and often ludicrous pictures, sometimes unexpectedly produced, form a source of much amusement to a parlor full of company.

A GOOD ARTICLE is worthy of commendation, however humble may be its service, so long as it is useful; for this reason we have ever been willing to speak a good word for Hook's & LAMBERT's axle grease, an article of California manufacture, which has stood the test of five or six years trial in this State. So far as we have heard, it has proven superior to any other thing of the kind ever offered to the public. We are pleased to observe that the worthy patentees are prospering in their business, as every one should do who makes an earnest effort to lubricate the world along.

WHEN Brazil was first discovered gold was in such common use that the inhabitants made fish hooks of that metal, no iron being used, although the country abounded with it.

NITRO-GLYCERINE TRIUMPHANT.

The public interest in nitro glycerine is still kept fresh, at the East, by discussions with regard to the possibility of its being rendered safe for transportation, etc. Notwithstanding the deplorable losses of life and property which have recently been experienced in various parts of the world, through accidents from this terribly destructive agent, there is every reason to believe that nitro-glycerine will yet be extensively employed for blasting purposes. As an evidence of this, we may state that a series of public experiments have recently been made at Washington, in the presence of President Johnson and a large concourse of Members of Congress and scientific men, the result of which has been that a bill has passed Congress providing for the transportation of nitro-glycerine, under proper precautions, and a company has already been organized for carrying on the manufacture of this article on a large scale. The experiments at Washington are said to have abundantly proved, that with proper care, there was no more danger in employing this agent, than ordinary blasting powder.

No one would favor the continued use of nitro-glycerine, if it must necessarily be attended with such terrible sacrifices as have heretofore been made; but the experiments above alluded to, and those described in our issue of June 9th, which were made in New York, go far to show that dangers from its employment are preventable. Since the experiments of Mr. Nobel, showing its almost perfect safety, when used with wood alcohol, numerous other scientific gentlemen have announced as the result of their experiments, several plans by which the same object can be more or less approximately obtained. Among others, Prof. Wurtz, the American discoverer of the new use of sodium amalgam, proposes to make a thorough mechanical mixture or emulsion of the nitro-glycerine with a saline solution of the same specific gravity. A solution of nitrate of zinc, lime, or magnesia, will probably be found to be suitable. When the nitro-glycerine is needed for use, water is added to the mixture, when the oil subsides and may be drawn off. Further experience seems to be needed to determine how long the mixture may be maintained without spontaneous separation.

Prof. Chas. A. Seeley proposes to prepare the nitro-glycerine more carefully, in order that it shall be perfectly freed from acid; and to prevent any future accumulation of acid, he proposes to keep suspended in the oil a small quantity of a substance in powder which shall neutralize any acid which may be generated, and which of itself shall have no action on the oil. This method is offered as an efficient prevention of spontaneous decomposition. The amount of neutralizing powder required is very little—sixty grains to the pound of oil might be sufficient. The quantity is so small that it would not interfere with the use of the oil, and need never be removed from it.

In actual practice one or more of these plans may be combined. The last is compatible with all the others, and should be used with all the others; nitro-glycerine should not be kept in storage, unless it is free from the danger of its most formidable property—the liability to spontaneous change.

It can scarcely be a matter of doubt with any intelligent mind, that the time will soon arrive, when the manufacture, transportation and use of nitro-glycerine will be carried on with as much safety as is obtained with gunpowder. Science will never permit such a useful and powerful agent, especially as an adjunct to mining operations, to lie idle for the lack of some practical method to render it safe as well as useful.

A NEW arrangement has been placed on the cars of the Portland and Kennebec Railroad for indicating the name of the station at which the train is about to stop. It consists of a glass case, conspicuously posted, containing a roll of white linen, on which is printed in bold type the names of all the stations on the road. As soon as one station is passed the brakeman turns the roll with a key until the name of the next station appears.

BEACH MINING IN HUMBOLDT COUNTY

Mr. Charles Brown, who worked at Gold Beach, in 1854, and has followed beach mining mostly since that time, has recently furnished us the following information regarding this rare class of mining. He is now in copartnership with Thomas Risbon, owning claims of five hundred yards fronting on the Pacific Ocean, near high tide mark, the pay sand extending back about one hundred feet. The location is two and one-half miles south of Crescent City, Del Norte County, California. Two other miners are working similar claims, adjoining Brown & Co., on the north. Another company of three men commenced mining about one mile south, a month ago, but have not got fairly at work, or for some other reason have not made their operations pay.

The method of operating by Brown & Co., is partly that of the old "long tom" system. The "tom" into which the sand is dumped from a wheel-barrow, is six feet long and four feet wide. Two feet of the lower portion is made of sheet iron, perforated with holes about one-eighth of an inch in diameter, and one-half inch apart. Under this iron is set the amalgamating copper-plates, in a box four by eight feet, at an angle of about fifteen degrees. The perforated iron overhangs the upper portion of the plates, and allows the gold and sand to sift through, while the coarser particles of gravel, which might interfere with the coating of the plates, remains to be shoveled off. About midway of the plates, a box three inches wide and four inches deep, is inserted across the bottom. To the depth of an inch or so in this box is placed a strip of board, about six inches wide, which answers as a breaker or distributor, causing the sand and water to pass under it into the box and out on the lower side evenly over the plates. Another similar box sets at the extreme lower end of the plates, to catch the particles of quicksilver or amalgam that may become detached from the plates. The plates are amalgamated with quicksilver, and when in proper order the surface is as bright as a mirror. These plates are taken off and warmed to a proper heat in order to clean them up, which is done not oftener than once a month. Much care has to be taken in cleaning the plates not to injure the surface, and the coating will then last for years. Fresh quicksilver is frequently applied to moisten the plates, which is accomplished by shaking it through a cloth evenly over the surface. A small addition of sodium amalgam to the quicksilver, before shaking it upon the plates, would greatly facilitate and improve the process of covering them with quicksilver.

The supply of water, which is limited, is obtained from a spring, and has to be brought from a reservoir by a flume half a mile in length. Mr. Brown judges from experience that salt water would answer as well as fresh water, if it could be as cheaply obtained. By this method, two men are enabled to wheel up and work some twenty tons per day, averaging about eight dollars per day to the hand. Mr. Brown informs us that he made as high as seventy-five dollars per day in washing at Gold Beach, near the mouth of Rogue River, in 1854, without using copper plates at all. He thinks that other rich spots will yet be discovered on the border coast of California. It is our opinion that improved facilities for working these auriferous sands will yet prevail, and beach mining become an important branch.

PATENTS BOUGHT AND SOLD.—Mr. J. H. Atkinson, who informs us that he has had much experience in the sale of patent rights and patented articles, has established himself in that business at the corner of Kearny and California streets, in this city. A reliable agency of this kind will be of service.

MINERAL COLLECTION FOR SALE.—We would call attention to the advertisement in this issue of the sale of specimens of Nevada minerals. Such collections are not to be purchased at all times.

CARPENTER'S IMPROVED ROASTING FURNACE.

Mr. Carpenter has sent us two photographic representations of sectional drawings of his furnace. This furnace consists of an ordinary reverberatory hearth, in which a draft of air is admitted, at intervals, from openings in a longitudinal channel running across the furnace, and directly in the rear of the fire bridge, admitting fresh air, charged with oxygen, between the heated air and flames of the furnace, and the ore which lies upon the furnace hearth. In the center of each opening in this longitudinal channel is placed a small steam jet, all communicating with a steam pipe inclosed in the brick work at the base of the fire bridge, by which a continuous current of steam is made to pass, with the fresh air, between the flame of said furnace and the ores upon its hearth. The chief peculiarity of this furnace, as we understand it, consists in this combined air and steam jet, as above described.

In extracting gold and silver from their sulphurets, it is well known that it is the presence of the sulphur which causes the great difficulty attending the operation. One equivalent, or one half the sulphur, is very readily driven off at an ordinary heat; but to remove the other equivalent requires so great a heat that there is danger of vaporizing, and thereby losing a portion of the precious metal, or melting and so combining it with the sulphur and iron and other metals present, as to render its after separation a matter of exceeding great difficulty. This is especially the case where the ore contains copper, either native or in any of its combinations. In such cases there is formed in the furnace either auriferous rose copper or black sulphide of copper, in which the gold will be mechanically held, and from which it cannot be readily separated by any subsequent process.

The efforts of Mr. Carpenter, as we understand his process, has been to remove the difficulties of the last part of the roasting, and to drive off the last equivalent of sulphur with a less degree of heat than is ordinarily used; thereby cheapening the cost, by reducing the amount of fuel and time required, and saving the loss of precious metals from the excess of heat usually employed.

These ends, we suppose, he claims to attain by introducing the current of fresh air between the flame and ore, giving the hearth a greater oxidizing power than can be obtained from the de-oxygenized air which has passed through the furnace; while the steam admitted with the fresh air rapidly takes up and passes off the sulphur as sulphureted hydrogen gas. In theory, at least, it would appear that this furnace should possess a material advantage over those of ordinary construction.

We furnish the above for the consideration of those engaged in roasting ores, and should be pleased to hear further from the inventor, especially if he has made any practical application of his principle. His address and specifications may be found under the head of "New Patents," and the photographic representations may be seen at this office.

LARGE CALIFORNIA MADE BOILERS.—Messrs. Moynihan & Aitken, of the Portland Boiler Works, have just completed the largest set of steamship boilers ever manufactured on this coast. They were made for the opposition steamship America, and are at present to be seen at Hathaway's wharf, where, owing to their immense size, it was necessary to set them up outside of the shop. These boilers are thoroughly constructed and double riveted throughout. Their combined weight amounts to about eighty tons, or 160,000 pounds. Such boiler work is complimentary to California manufacturers.

NEW QUARTZ MILL FOR BROWN'S VALLEY.—By the Marysville *Daily Appeal*, we learn that the Pennsylvania Mining Company have contracted with the Marysville Foundry for an 80-horse engine, boilers, hoisting gear, an 8-inch pump, pipes, etc. The price is not made public, but all will not cost much less than \$15,000. The work is to be completed and delivered in sixty days, and it is expected to be in running order by the 1st of November.

A MISTAKE.—The MINING AND SCIENTIFIC PRESS asserts that there are only *forty-seven* square miles of anthracite coal beds in the United States.—*Reese River Reveille*.

Wn worn in error in the above by just one figure, which figure, however, makes a very material difference. Instead of "47" wn should have said "447" square miles. With the exception of three or four basins or patches of very limited extent and value in other States, Pennsylvania is the great depository of anthracite, so far as discovered on this continent. This entire anthracite area is made up of numerous segregated basins, produced by alterations of anticlinal and synclinal axis, all of which range nearly parallel with the base of the Alleghany Mountains, but on their eastern slope, while the bituminous coals are found on the western slope. Their nearest approach is at the northeastern extremity of the bituminous coal field, where that and Wyoming anthracite basin is separated by only a narrow crest of the Alleghany about ten miles across.

Great Britain possesses a far larger area of anthracite than exists in America, or in fact any other part of the world; but owing to the fallacious notion that such coal cannot be pleasantly used in dwelling houses, on account of its emitting more noxious vapors than other varieties, and for another equally unsubstantial reason that more difficulty is encountered in kindling and burning, it has never been so generally introduced there as here. As has already been hinted, in the article which called forth the above correction from the *Reveille*, Great Britain might learn a useful lesson by a careful inquiry into the American modes of using this coal, and the decided advantages it possesses for almost all purposes, over any other fuel.

THE NON-RECOIL GUN, alluded to in our last issue, is to have a thorough practical trial. The London *Engineer* says: "Mr. Harding, the inventor, has brought it under the notice of the French and Belgian Governments, who have each appointed a commission to examine and report upon its merits. Mr. Harding is drawing, at the Hydraulic Tube Company's Works, a gun of 4-inch bore with 2-inch thickness of steel around the chamber, and we hope soon to be able to give the practical results of a conclusive trial of the most extraordinary system of ordnance known to modern times." The result of experiments on this new principle in the resistance of gases to be made on a scale that promises useful and practical effects, will be awaited with a very great degree of interest.

ALKALI—WHAT IS IT?—This term is one of such constant use that it is well to fully understand both its derivation and its precise meaning. The word is of Arabic origin. *Kali* is the Arabic word for bitter, and *al* is equivalent to our word *super*. We say fine and superfine; and as *kali* is bitter, alkali is very bitter or superlatively bitter. In short, alkali is the very dregs of bitterness. The New England *Farmer* describes alkali as follows:

Alkali is a general term which includes all those substances which have an action like the ley of wood-ashes. If this is boiled down it forms potash. What is chiefly understood by the term alkali means potash, soda, and ammonia. Potash is the alkali of land plants; soda is the alkali of sea plants; and ammonia is the alkali of animal substances.

Potash and soda are fixed; that is not easily raised in vapor by fire. Ammonia always exists as vapor unless fixed by something else.

Lime, fresh slacked, has the alkaline qualities of potash, but weaker—so has calcined magnesite, but in a less degree than lime. Here are two substances, earthy in their look, having alkaline properties. They are called, therefore, alkaline earths. When the tongue is touched with a bit of quick lime, it has a hot, burning, bitter taste. These are called alkaline properties. Besides these, they have the power of combining with and taking the sour out of all sour liquids and acids; that is, the acid and the alkali neutralize each other. Were it not for this, there would probably be no such thing as vegetable growth.

WM. H. GABB.—We learn from a paragraph in the *Woodland News*, that Mr. Wm. H. Gabb, of the State Geological Survey, is now engaged in his especial work of exploration in Lake and Mendocino counties.

NEW PATENTS.

Recently issued from the United States Patent Office, and of special interest to residents on this coast.

MANUFACTURE OF ARTIFICIAL STONE.—William Kirrigan, London, England, claims: 1st, The manufacture of artificial stone, bricks, and tiles, or other hard material, by mixing and using the sulphate of iron or other similar metallic sulphates, or other similar mixtures of acids with metallic bases, and several other materials described, in combination with cement and silica, and limes and silica, contained in the materials described. 2d, The application of coloring matters in combination with the silica and other materials. 3d, In the manufacture of bricks and tiles from plastic materials, the application of the materials specified for the purpose of effecting a more perfect combustion, burning, and hardening, thus producing a superior form of article.

ROOF OF BUILDINGS.—William W. Boach, New York City, claims: 1st, The use of mica or mineral glass in sheets or plates as a roofing material, transparent, translucent, opaque, and nonmetallic for roofing purposes. 2d, Ornamenting upon or between the plates or thicknesses of the mica, as described. 3d, Making an elastic roofing by cementing the plates of mica with flexible cement. 4th, The combination of mica with wood, slate or other equivalent substances.

TREATING ORES.—Charles F. Carpenter, Louisville, Ky., claims a mode of using steam of any temperature for the purpose of facilitating the process of extracting gold and silver from ores, which consists in introducing said steam into a reverberatory furnace between this flame of said furnace and the ores containing gold or silver, which are spread upon the hearth of said furnace, as herein described, or any other substantially the same.

A full notice of this invention will be found elsewhere in our editorial columns.

BURNING FLUID.—David Mansfield, Oshkosh, Wis., claims a burning fluid for illuminating purposes, which is composed of the several ingredients mixed together in about the proportion herein mentioned.

COMPOSITION OF MATTER.—Lewis Francis, assignor to himself and Cyrus H. Loutrel, New York City, claims combining glue, glycerine and silicates, with or without saccharine matter, to form a new and useful composition of matter for various purposes.

BUTTON-HOLE SEWING MACHINE.—James A. and Henry A. House, Bridgeport, Conn., claim: 1st, Working a button-hole automatically and on both sides without turning the cloth by the devices, substantially as described. 2d, The scroll cam ratchet-wheel to give a rectilinear reciprocating motion to and govern the length of the button-hole. 3d, The combination of the scroll cam ratchet-wheel, shifting pawl, and jog-bar. 4th, The combination of the scroll cam ratchet-wheel, the sweep bent-lever, and jog-bar, to space the stitching. 5th, The combination of the reciprocating vibrating clamping plate, the adjustable switch-wedge, and the jog-bar, for the purpose of varying the length of stitching for a button-hole. 6th, The combination of the jog-bar, clamping-plate, moveable switch, and switch-block, to sew both sides of button-holes automatically. 7th, The combination of an adjustable stitching-plate with the fixed bed-plate. 8th, The combination of the clamp to hold the cloth with an adjustable screw-pivot to render the bearing surface of the clamp parallel with cloth of varying thickness. 9th, The combination of the vibrating and reciprocating plate with the adjustable clamp, when so arranged that both shall move together to hold the cloth smoothly between them.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, in one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents.

DEWEY & CO.,
Patent Agents, 505 Clay Street, San Francisco.

TO CORRESPONDENTS.—Another number of the series of articles by Professor Rowlandson, on "The Chief Gold Districts throughout the World," has been received, and will appear next week; also a letter from our Traveling Correspondent, "Prospector," written from Nevada county. We shall make further allusion to the New Mining Law next week, when we shall endeavor to answer the queries of our correspondent "B. Honest."

AUCTION HOUSE.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 418 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.

THE SAN FRANCISCO PHOTOGRAPHIC ARTISTS' ASSOCIATION.—This Association, which has been organized for the very laudable object of improving the interesting and popular Art of Photography, held its first election for officers on Monday evening, August 6th. The following officers were elected: President, Silas Selleck; Vice President, Alex. Edoaarts; Treasurer, W. H. Rolofson; Secretary, H. C. Bennett; Trustees, Wm. Shew, C. F. Hamilton, Jacob Shew, D. H. Woods, H. Oleson, D. Wright, J. C. Chalmers, W. Dickman and G. H. Johnson. Dr. I. Rowell, Dr. W. O. Ayers, Dr. Blutchley and H. C. Bennett, as a mark of appreciation for their services in the cause of science, were elected honorary members of the association.

Wn heartily wish the association a full measure of success. Photography having become the most popular art of the age, whatever tends to its improvement, also tends to elevate the public taste for the true and beautiful in nature and art.

AN OLD BEAM.—Among the demolitions required by the works a new Hotel-Dieu, Paris, was one of a very old house, in pulling down which, the workmen found an immense oak beam in good preservation, about three feet square, with the following inscription, rudely carved, but distinctly legible on one of its faces: "I was placed here in the year 1450, and I was 600 years old when taken from the forest of Rovray." The venerable piece of wood thus found, dates from the reign of Charles the Bald, 25th king of France, who reigned from 845 to 861.

Every man has in his own life follies enough; in his own mind, troubles enough; in his own fortunes, evil enough, without being curious about the affairs of others.

Answers to Queries.

J. G. L., of Iowa Hill.—Package received and contents examined. No necessity for an assay to determine that there is no platinum present. The sample sent is composed chiefly of pyrites, the entire mass containing about three dollars to the ton in gold.

W. B., Visalia.—You are entirely mistaken in the character of the mineral sent. It presents no indication, whatever, of tin. An assay would be merely money thrown away. The specimen is an asbestiform tremolite, composed of silica and magnesia in about the proportion of 70 parts of the former to 30 of the latter, with a trace of lime. The mineral has no commercial value.

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PATENT AGENCY.

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Information for Inventors!

Inventors on this coast having their applications for patents made out through our Agency can sign their papers at once, and thus secure their rights at least three months sooner than by sending the papers to distant agents, situated in New York or Washington.

The first question that presents itself to the inventor, who desires to procure a patent, is: "Can I obtain a patent?" A positive answer to this question is only to be had by presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings, and the payment of the prescribed official fees. Aside from these steps, all the inventor can do is to submit his plans to persons experienced in the business of procuring patents, and solicit their opinion and advice. If the parties consulted are honorable men, the inventor may safely conclude his plan to them, and they will inform him whether or not his invention is probably patentable.

Those who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to receive them in person at our office, or to advise them by mail, or through the MINING AND SCIENTIFIC PRESS. In all cases they may expect from us an honest opinion. For these consultations, opinion and advice, we make no charge. A pen-and-ink sketch, and a description of the invention should be sent together with stamp for return postage. Write plain; do not use pencil or pale ink; be brief.

Remember that all business committed to our care, and all consultations, are kept by us secret, and strictly confidential.

Caveats.

A caveat is a confidential communication made to the Patent Office, and is therefore filed within its secret archives. The privilege secured under a caveat is, that it entitles the inventor to receive notice, for a period of one year, of any application for a patent subsequent to the filing of the caveat, and is likely to interfere with the invention described in the caveat, and the inventor is then required to complete his application for a patent within three months from the date of such notice, and the caveat is then very carefully prepared. Our fee for the service varies from \$10 to \$20. The Government fee under the new law is reduced to ten dollars; and this sum does not apply, as heretofore, as part of the fee on presenting an application for a patent.

Inventors will oftentimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat paper, we only require a sketch and description of the invention; no model being necessary.

Expense of Applying for a Patent, Rejections, etc.

Under the new law, the Government fee, on filing an application for a patent, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded. English, French, Austrian, Prussian, Spanish, and inventors of every nationality, may now obtain patents in the United States upon the same terms as our own citizens. The only discrimination made is against subjects of government that discriminate against the inhabitants of the United States. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, until a decision is given, is from \$20 to \$50. If the patent is granted no further agency expenses ensue. If the application is rejected we cause thorough investigation to be made into the reasons presented to the Government for refusing the patent. In making this examination, our Washington agent has access to all the drawings, models, books and specifications filed in reference, and we report the results as far as possible to our clients.

If the rejection proves to be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case. For this prosecution work we charge a fee proportionate to the extent of the contest, payable only on the issue of the patent; but our demand will be reasonable and satisfactory to our clients, and will be arranged beforehand by special agreement. The system adopted by all works of skill, gives equal satisfaction and presents to all applicants, rich or poor, an equal opportunity of having their patent cases prepared, conducted and prosecuted in the best manner. Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects, will be glad to be further advised by our expert and successful of our unequal facilities in securing favorable results. We have been successful in securing Letters Patent in many cases of such a matter. Our terms for such cases are very moderate.

Models, Remittances, etc.

The law requires that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions; it should be neatly made, of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it conspicuously. When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express or otherwise, to our address, namely: Dewey & Co., Mining and Scientific Press, No. 505 Clay Street, corner of Sansome, San Francisco, Cal. Proper expenses and send express receipt to us by mail.

Simultaneously with the model, the inventor should send us the first installment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance stating the name and address of the sender.

A full description should also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

On the receipt of the model and Government fee, the case is duly registered upon our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for preparing the case is not paid until the case will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued the Government fee, namely, twenty dollars.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless it is one of great complication; the business can be well done by correspondence.

When the invention consists of a new article of manufacture, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished.

The average time required to procure a patent, when the case is conducted at our agency, is three months. We frequently get them through in less time; but in other cases, owing to delay on the part of officials, the period is sometimes extended to four or five months, and even more. We make a special point to forward our cases as rapidly as possible.

Patent Office Fees, and How Payable.

Nearly all the fees payable to the Patent Office are positively required by law to be paid in advance.

The following is the Government tariff of fees established by law:

On every application for a design, for 3 yrs and 6 mos.	\$10
On every application for a design, for seven years.	\$15
On every application for a design, for fourteen years.	\$20
On every application for a patent, for seven years.	\$15
On every caveat.	10
On issuing each original patent.	20
On filing a disclaimer.	30
On every application for a re-issue.	30
On every additional patent granted on a re-issue.	30
On every application for an extension.	50
On the grant of every extension.	50
On appeal to the Commissioner from Examiners-in-Chief.	25
On every appeal to the Judges of Circuit Court, D. C.	25

We have had successful experience in conducting these appeals, and our services are rendered on moderate terms.

N. B.—We make out our own forms for applications, caveats, and reissues, and respectfully inform all parties that we have no printed blank forms for sale.

DEWEY & CO., Agents.

Mining and Scientific Press Office, No. 505 Clay street, corner of Sansome, San Francisco.

A PECULIAR FISH.—Sir Charles Bell says: "We have a curious instance of the precision of the eye and of the adaptation of muscular action, in the beaked chaetodon, a fish which inhabits the Indian rivers, and lives on the smaller aquatic flies. When it observes one alighted upon a twig, or flying over (for it can shoot them on the wing), it darts a drop of water with so steady an aim as to bring the fly down into the water, when it falls an easy prey. It will hit a fly at the distance of from three to six feet. Another fish of the same order, the zeus, has the power of forming its mouth into a tube, and squirting at flies, so as to encumber their wings, and bring them to the surface of the water. In these instances, a difficulty will readily occur to the reader. How does the fish judge of position, since the rays of light are refracted at the surface of the water? Does instinct enable it to do this, or is it by experience?"

As Sir Charles Bell was one of the closest observers, and most trustworthy writers of his time, the above, curious as it appears, must be received as unquestionable authority.

TIMBER MEASUREMENT.—The dimensions of round timber are found by girthing the log, and taking one quarter of the girth for the side of the square. Hence the rule: Multiply the square of one-quarter of the circumference by the length of the timber, and you have the contents of the log or tree.

The gayest smiles are often the saddest weepers.

J. B. COX, BUSINESS AGENCY.—Makes private sales of Property and Business Places of every description, in the city and throughout the State; procures partners with large and small amounts of money; negotiates sales of mining property, and does a General Agency Business. Patronage solicited by mail, express, or by personal application at the office, 402 Montgomery Street, San Francisco, California. 23v111r

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies
Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, in the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-17

M. GREENBERG. W. H. MOORE.
GREENBERG & MOORE,
Eagle Brass Foundry,
No. 43 First street, San Francisco,
(Between Mission and Market.)



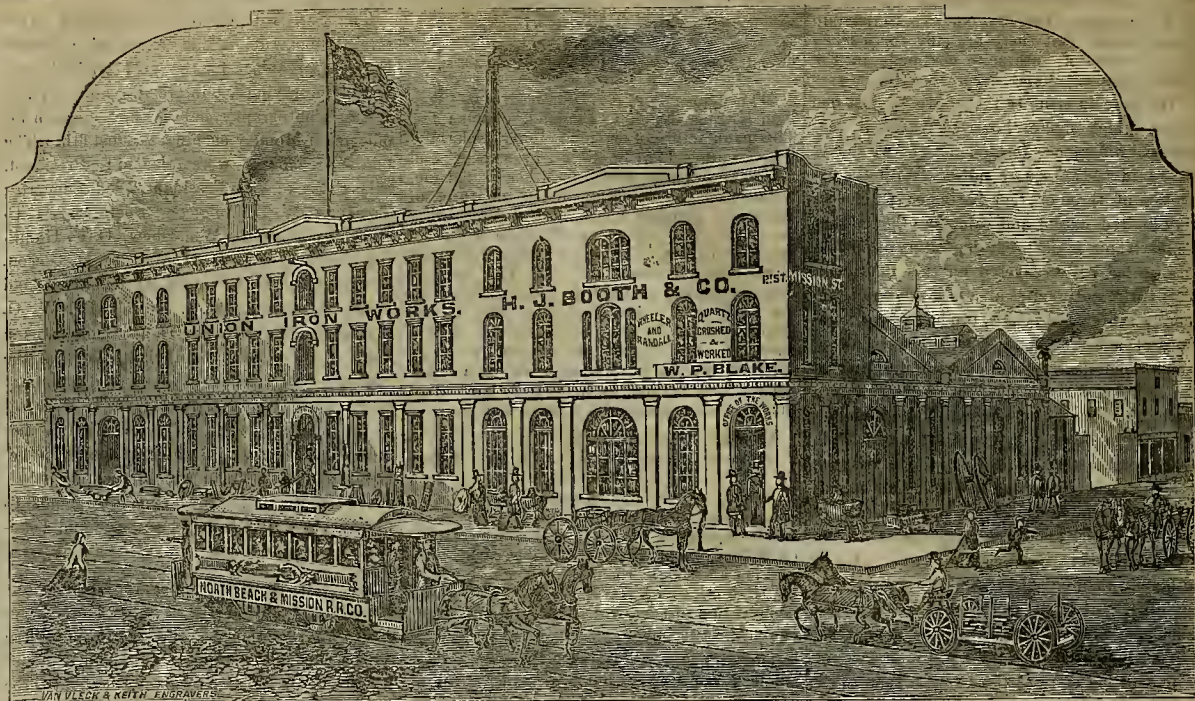
MANUFACTURERS OF all kinds of Brass and Bell Castings; Force and Lift Pumps; Cocks and Valves of every description made and repaired; Oil Globes, Steam Whistles, Hydraulic Pipe and Nozzles (for Mining purposes). Also, COUPLINGS OF ALL SIZES.

Particular attention paid to Hydraulic Pipes and Nozzles; also, to Ship Work of all descriptions. All orders from the interior will be attended to with promptness and dispatch. 23v123m

LEWIS COFFEY. J. S. ANDERSON.
LEWIS COFFEY & RISON,
Steam Boiler & Sheet Iron Works.

The only exclusively Boiler Making establishment in the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

J. F. FLYNN. HENRY FRANGE.
FLYNN & FRANGE,
EMPIRE FOUNDRY,
221 Mission street, below Beale, San Francisco, PRACTICAL IRON FOUNDERS, having unequalled facilities for the manufacture of Lion's Paw Castings, particular attention will be given to this department. We manufacture School Seats and Desks, Agricultural Implements, Railing, Ship Castings, Stake Irons, and all other kinds of Heavy and Light Castings, with dispatch. The patronage of the public is respectfully solicited. 21v124y



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, Screw and Drop Presses, Coining Machinery, File Drivers, Bark and Malt Mills, and all kinds of Castings.
ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.
BOILERS.—Locomotive, Fire, Tubular, Upright, Cylinder and Corliss, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.
PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's Improved Flat bottom pan, Uchlin's pan, Veach's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chille Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or Iron Frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Canis, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.
Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.
H. J. BOOTH. 650, W. PRESCOTT. IRVING M. SCOTT.

H. J. BOOTH & CO.

Vulcan Iron Works Company

[ESTABLISHED 1850.]

First, Natoma and Fremont Streets.

IRON FOUNDERS,
Steam Engine and Locomotive BUILDERS,
Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of new shops on Fremont Street, doubling the capacity of the original establishment. Their facilities for turning out machinery promptly and efficiently, are now unequalled in the State. Their Boiler Works have also been enlarged correspondingly.

The Company are prepared to execute orders for all classes of Machinery and Boiler Work, such as

Mining, Steamship, and Steamboat Machinery,
Railroad Machinery, Floating Mills, Locomotives, Quartz Mills, Car Trunks, Sugar Mills, Car Wheels, Saw Mills, Hoisings and Irons; and
Manufacturing Machinery of Every Kind.

Sole Manufacturers of
HEPBURN & PETERSON'S REDUCING PAN AND AMALGAMATOR
BEATH'S AMALGAMATOR;
HESSE & MOORE'S IMPROVED HOWELL QUARTZ CRUSHER;
BAUX & CUIOD'S AMALGAMATOR AND SEPARATOR;
FAUCHER'S QUARTZ GRINDER AND WATER WHEEL;
JONVAL'S IMPROVED WATER WHEEL;
LEFFEL'S AMERICAN DOUBLE TURBINE WATER WHEELS;
STEVEN'S PISTON PACKING RINGS.

They have also a large assortment of Patterns for Pumping and Hoisting Machinery, Gearing, Pulleys, Water Mill Irons, Hydraulic and Screw Presses, Retorts, Furnaces, Grate Bars, House Fronts, Ornamental Fence Posts and Paving Stone Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best Hard Iron. Quartz Screens of Russia Iron Punched to Order. 27

Miners' Foundry

—AND—
MACHINE WORKS,
First St., between Howard and Folsom Streets,
SAN FRANCISCO.

EVERY description of Iron and Brass Machinery, the BEST and MOST ECONOMICAL, manufactured in the State of California, will be furnished with dispatch at the MINERS' FOUNDRY AND MACHINE WORKS, such as
Steam Engines and Boilers, Flour, Saw and Quartz Mills, Machinery, Mining Pumps, Amalgamators, Retorts, Etc., Etc.

Particular attention will be given to the manufacture of Machinery in Sections designed for pieces of difficult access. Various models of Quartz Crushers, Amalgamators and Water Wheels—some in operation and on exhibition.
Parties desiring to test their ores practically, in small quantities, will be afforded simple facilities, free or cost.
All parties desiring accurate and highly finished drawings and superior Machinery, at most reasonable rates, are cordially invited to call before contracting elsewhere.

HOWLAND, ANCEL & KING
GEORGE T. PRACY,
MACHINE WORKS,
Nos 109 and 111 Fremont street, near corner of Mission,
OPPOSITE MECHANICS' MILL,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

Special attention paid to Repairing. 23v124y

HANSCOM & CO.,

Etna Iron Works!
Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and Amalgamator,

Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,
Owing greater power, at lower cost, than any wheel in use and for one of our circulars, giving full tables.

All Wheels warranted to give the power as set forth, or the money will be refunded.
Sole makers for this coast of the "Pendegast White Iron Stamp Shoes and Dies."

None genuine unless obtained from us. Every one warranted.
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited. 19v12

FULTON Foundry and Iron Works.

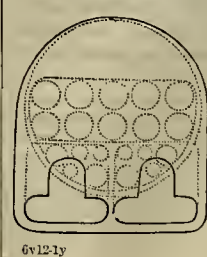
HINCKLEY & CO.,
MANUFACTURERS OF
STEAM ENGINES,

Quartz, Flour and Saw Mills,
Moore's Grinder and Amalgamator, Mining Pumps, Amalgamators, and all kinds of Machinery.

Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco. 23v12

NEPTUNE IRON WORKS,
Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MARINE, Locomotive,
And all kinds of
HIGH PRESSURE Steam Boilers
MADE.
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.
Old Boilers Repaired
D. CAMERON.



UNION IRON WORKS, Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston Packing, for new and old Cylinders, manufactured to order.
Front Street, between N and O streets,
14v11 SACRAMENTO CITY

SAN FRANCISCO Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of
Marine and Stationary Engines.
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Cider, Cotton and Tobacco Presses of the latest Improved Patterns.
Brodie's Improved Patent WINDMILL SEPARATOR, for Dry Crushing; Baux & Cuiod's Amalgamator and Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.

6v11-ly **DEVORE, DINSMORE & CO**



JAMES MACKEN, COPPERSMITH,

No. 226 Fremont st., bet. Howard & Folsom.
All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 23v123m

WATER VEINS—CURIOSITIES OF MEADOW LAKE.—The Sun says there is something rather strange in connection with veins of water that pass through the valley on which the town of Meadow Lake is built:

A. Grant, whose premises are situated near the base of the hill on the north side of town, at the depth of four feet from the surface of the ground, struck one of these veins, which in a few moments filled the well and flowed over the top of it. C. M. Lake, who sunk a well near the Lake House, at a depth of fifteen feet, also struck a vein, which when opened boiled up like a boiling pot, filling the well almost half full. J. D. Cross, at the present time, is sinking one about half way between the two mentioned, and on an exact line. The well is now down twenty feet, and the dirt taken from it contains but little dampness, in fact, is almost as dry as though it had been baked in an oven. The earth taken from this well is entirely different from anything we have ever seen in the district, being a kind of yellow talc or clay, which always breaks with a smooth glossy surface. In other places large granite boulders are found imbedded in smoothly washed gravel. We have no doubt but the greater portion of the valley at some former period was the bed of a lake. Where the large bodies of washed gravel came from we are unable to say, from the fact that the surrounding hills show no gravel whatever. There being lakes situated in the vicinity of the town at a greater elevation than the valley may be the cause of the water coming up with so much force when a vein is opened.

Mr. WEAVER, an optician, of Oxford street, London, has invented a clever instrument which will prove of great value to all who wear spectacles. All good spectacles are now made of pebbles, which do not scratch like glass, and are more free from flaws, but all pebbles are not good ones. This instrument, though without understanding it, makes the quality of the pebble at once apparent to the eye. If the lens placed in it is glass, the spectator cannot see through it at all; if a good pebble, he can see through an even piece of topaz; if bad, his eye is distracted by all the colors of the prism. The multitude of angles in a bad lens worry and strain the eye, as anybody can see who will look patiently for a minute through an ordinary window-pane, usually the very worst piece of glass to make.

WASHING HANDS.—If the water has lime in it, use very little with soap, because the soap has to dissolve the lime before it will act well upon the matter it is intended to remove; merely dipping the fingers in the water to take up just enough to make a solution of soap sufficient to take up the dirt is, with hard water, the only way to keep the soap from sticking to the hands. When the dirt is removed, rinse the hands in plenty of water, or in two portions of water if there is not plenty. The barbarous old practice which we still often see, of washing with soap in one portion of water, is a proof that those who practice it have not thought about it; the soap is worse than most of the dirt it is used to remove, and ought to be thoroughly washed from the hands, clothes, or whatever it is used upon. Brown soap is unfit for the toilet, and the economy of it is small—too small for even the poorest to think of, in comparison with the offensiveness of it.

WINE PRODUCT OF CALIFORNIA.—The extent of the California wine interest is comparatively little known to the Atlantic States. Every year increases the product immensely. The estimate for the present year is 350,000 gallons in Los Angeles county, 350,000 gallons in Sonoma county, and 300,000 in the remainder of the State, or 1,000,000 gallons in all—more than four times the entire product of the United States in 1860.

A STRANGE PLACE TO PLAY CARDS.—The diving bell has been abandoned on the Thames river, in England, in favor of the diving dress, principally because the men employed were found, while the Westminster Bridge was being built, to spend their time at the bottom playing cards, and there was, of course, no effectual means of keeping a check on them. It is not easy to play cards in a diving dress, and the remedy has proved very satisfactory in its operation.

PROGRESS.—Some writer has defined "Progress" as follows: "Truths are first clouds, then rain, then harvest and food." The philosophy of our century is the common sense of the next. We should so live and labor in our time that what came to us as seed may go to the next generation as blossom, and that which came to us as blossom may go to them as fruit. This is what we mean by progress."

CHEMICAL.—An exchange accounts for the rapid disintegration of the Austrian Empire during the present European war, by a consideration of the great dissolving power of Prussic acid.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greens Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for Board and Room.
FINE OATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents.
21v12 F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL,
K Street, between Third and Fourth,
SACRAMENTO,
IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seven fine Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and finely ventilated. No expense has been spared to make it comfortable and pleasant for guests.
Price of Rooms very low. Meals, 25 cents.
81v2-6m B. EISENMENGER.

WHAT CHEER HOUSE,
SACRAMENTO.
Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.
Meals, 25 cents.
Board, per week, \$4.00.
Board and Lodging, per day, 1.00.
Single Rooms, 50.
Railroad Ticket Office and Stage Office on first floor.
7v12-3m A. J. SENATZ, Proprietor.

Rheumatism!!
READ IT! READ IT!!

SACRAMENTO, April 16th, 1866.
H. BOWMAN—DEAR SIR: THIS IS THE FIRST WRITING I have done in two years, and it affords me great pleasure to be able to use my pen in the service of those who are suffering, as I have suffered, by stating the following facts:
I have for two years and upwards been afflicted with CHRONIC RHEUMATISM, and until a few weeks ago I have never found anything that afforded me any relief. For three months of the time I was unable to feed myself, and for the last five months my arms have been so bent that I have not been able to dress myself. I was five months at the Warm Springs, at San Luis Obispo, and three months at a Hydropathic Institute in Stockton, and I have been under the care of six different physicians, in the vain hope of relief. About four weeks ago I was induced by a person who had been cured by it to try a bottle of RICHARD'S REMEDY FOR RHEUMATISM, and in less than twelve hours I experienced great relief. In a few days I was enabled to straighten out my arms, and I have been getting better and gaining in strength and flesh ever since. I have now the complete use of all my limbs, and, for the first time in two years, I am out of pain. I do feel for those who suffer as I have suffered, and if they will take my advice, they will lose no time in giving the REMEDY a trial. Yours truly,
GEORGE TAYLOR.

RICHARD'S REMEDY is for sale by
H. BOWMAN,
Druggist, Sacramento.
Price, \$2.50 per Bottle.
21v12

Important to Californians.—Many inventors have lately had their claims for Patents seriously and in some cases fatally delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safe course is to trust their business with none but active and experienced solicitors. The MINING AND SCIENTIFIC PRESS PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

Metallurgy.

BOALT & STETEFELDT,
Metallurgists and Mining Engineers
AUSTIN, NEVADA.
Western Branch of ADLERBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. H. TIEMANN.
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
210 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.
19v12-1y

**Copper, Lead, Gold, Silver,
Nickel and Cobalt Ore.**

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,
Agent for Townsend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.
Special attention paid to Gold Oaring Sulphurets. 15v10-3m

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Haskell, for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their ore, receivable at their mines. For further particulars, apply to JOHN N. RISDON, At Coffey & Risdon's, San Francisco. 21v12

MARTIN & CO.,
Office, Stevenson House,
Corner California and Montgomery streets (up stairs).
WILL CONTRACT FOR THE
PURCHASE OF COPPER ORES
Assaying eight per cent. and upwards of Copper to the We will make advances upon Ores of Copper. San Francisco, Post Office Box 1259. 22

PACIFIC CHEMICAL WORKS
—AND—
ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of **Manufacturing Chemicals,** Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FALKENAU & HANKS,
Laboratory, corner Folsom and Center streets,
Mission Dolores.
Office, 629 Washington street, San Francisco. 21v12-1m

**EUROPEAN
METALLURGICAL WORKS,**
—AND—
Practical Mining School,
Bryant Street, Between Third and Fourth,
SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphurets, pyrites, and the so-called "rebellious ores," are having special attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.
The Proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining, and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.
S. P. KIMBALL, J. R. MURPHY.
10v10

JOHN TAYLOR & CO.,
IMPORTERS,
AND DEALERS IN
ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERT. LING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUPPLIES, ACIDS and CHEMICALS, constantly on hand.
San Francisco March 6, 1865 11v10-1f

NAPA CITY, May 9th—Messrs. Dwyer & Co., Patent Agents, San Francisco: Yours of May 7th is at hand. I am pleased to hear of the receipt of our caveat papers at the U. S. Patent Office, Washington, D. C. You have my fullest thanks for your energetic movements concerning the same. Respectfully, yours,
W. W. LEVERING.

Capitalists, Attention!

**QUARTZ MILL & MINING PROPERTY
FOR SALE
In Nevada County.**

A NEW 8-STAMP QUARTZ MILL, 7 LEDGES AND 440 acres heavily timbered land, near Eureka, Nevada County, are now offered for sale. The Mill is run by steam-power, and is in complete order for business. The ledges, which form the principal value of this property, are all large and well defined, but require a further outlay of capital, in order to make them remunerative. For the lack of means to properly develop these claims, the present owners are disposed to sell the same for a reasonable price. Capitalists wishing to engage in mining will find this a splendid opportunity to purchase a property that will bear right scrutiny, and offers superior inducements as an investment.

For address and further information, inquire of the Publishers of the MINING AND SCIENTIFIC PRESS, 505 Clay street, San Francisco. 22v12

HAYWARD, COLEMAN & CO.,
IMPORTERS AND REFINERS
—OF—
**Illuminating, Lubricating,
—AND—
PAINT OILS!**

CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILEO AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO,—
SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners, and Engineers, to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!
An elegant and complete assortment on hand. 4v13-3m19 414 Front street, San Francisco.

**THE CALIFORNIA
Aerated or Unfermented
BREAD COMPANY.**
Bakery on Folsom Street,
Between Tenth and Eleventh.....SAN FRANCISCO

MESSRS. TAGGART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in partnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit all orders for their truly whole and cleanly Bread. We have a sufficient number of delivery wagons at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.

Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention.
Order box at C. J. Hawley & Co.'s Grocery, corner Second and Jessie streets; Rowland & Walker, 617 Clay street; Plims's Carpet Store, Montgomery street, opposite Lick House; O. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the route-men likewise. We expect soon to be prepared to supply Pastry, likewise the Boston Brown Bread, and Deans of the first quality. Due notice will be given.

The present Company is entirely independent of the former California Unfermented Bread Company, neither of them having been in any way connected with that company. We would cordially invite the public to make a visit to our new bakery.
4v13-3m S. R. BULKLEY, Business Partner.

City College Laboratories,

Sonthest Cor. Stockton and Genry sts.

Practical and Analytical Chemistry
and Metallurgy.THOMAS PRICE,
Professor of Chemistry,
(Formerly of the Normal College, Swansea.)WILL OIVE PRACTICAL INSTRUCTIONS IN QUALI-
tative and Quantitative Analysis and Assaying. The
source-qualifies students for the application of Chemistry
to METALLURGY, MANUFACTURING ARTS, and MINING
PURPOSES.PHARMACEUTICAL and TECHNICAL CHEMISTRY,
such as is required by Medical and Pharmaceutical Stu-
dents, will be taught to such students as may require it.

Course of General Chemistry.

Evening Lectures will be delivered every Tuesday, at
half past seven o'clock, P. M., in the Philosophical Hall of
the College, without extra charge to the students in the in-
stitution.
On and after the 14th of February, the Laboratories will
be open every day, except Sundays, from 8 A. M. to 5 P. M.
For further particulars, address

REV. P. V. VEEDER,

Principal of the City College.

Or at 406 California Street.

YOUNG MEN WANTED!

Pacific Business College!

751 Market street, between Third and Fourth,
SAN FRANCISCO.AN INSTITUTION DESIGNED TO PREPARE YOUNG
and middle-aged men for an active and successful
business life.BOOK-KEEPING, PENMANSHIP, COMMERCIAL LAW,
COMMERCIAL ARITHMETIC, CORRESPOND-
ENCE, MODERN, LANGUAGES, ETC.,

Practically taught.

This College forms a link of the
American Chain of Commercial Colleges,Located in the principal cities of the United States, and is
the only institution on the Pacific coast conducted on actual
BUSINESS PRINCIPLES.Regular Banks and Business Offices have been
introduced,By which we are enabled to fit out Students in the BEST
POSSIBLE MANNER, and at the LEAST EXPENSE
of time and money, for the practical duties of the Counting
House.Students can enter at any time of the year, there being no
vacations. Each student receives individual instruction,
with the exception of Lectures and other general exercises.

The College Review,

Giving full particulars of the College, can be had FREE,
by calling at the College, or addressing

E. P. HEALD,

President Business College, San Francisco.

SAN JOSE INSTITUTE

Commercial College,

SAN JOSE,

Santa Clara County, California.

THE NINTH SESSION WILL COMMENCE ON THURS-
DAY, July 26th, 1886.A new, practical and complete Business Course has been
adopted, differing from that of any other School in the
State. We call the especial attention of Business Men, or
those wishing to give their sons a thorough, practical Busi-
ness Education to this fact, and request them to send for a
Circular before deciding what School they will patronize.
Ample accommodations for boarders in the Seminary.
Ornamentals, Music, Ancient and Modern Language
taught.Special arrangements have been made for boys between
the ages of ten and eighteen.

For further particulars or Circular, address

FREDMAN GATES, Principal.

Or, GEO. E. HOUGHTON, Prin. Com. Dept.
14134

SACRAMENTO SEMINARY.

BOARDING SCHOOL

FOR YOUNG LADIES,

Tenth Street, between F and G.

SACRAMENTO, CAL.

Session commenced January 8, 1886.

MR. AND MRS. HERMON PERRY,
71212f Principals.SANTA CLARA COLLEGE, S. J.,
SANTA CLARA, CAL.Conducted by the Fathers of the Society of
Jesus.The SIXTEENTH ANNUAL SESSION of this College will
commence on

Monday, August 20th, 1886.

TERMS.—Tuition in the Classical and Scientific Depart-
ments; Boarding and Lodging; Washing and Mend-
ing of articles washed; School Stationery; Medical
Attendance and Medicine; fuel, light, baths, etc.,
per session of ten months..... \$350
For further information and catalogues, apply to the
President of the College, or to Rev. A. Maraschi, St. Ignace
College, Market street, San Francisco.
3v11-tau12 REV. A. MASNATA, S. J., President.

Commercial Academy for Ladies & Gentlemen

No. 111 K STREET, SACRAMENTO, CALIFORNIA.
Established in 1865, where students can acquire a
thorough business education. Double Entry Book Keeping,
Practical and Ornamental Penmanship and Drawing, Latin,
French, the Common and Higher English Branches, taught
on reasonable terms. Students from any part of the State
can procure board and lodging in private families, near the
Academy, at from \$4 to \$6 per week. For terms, address,
MART TAYLOR, Principal; Miss SARAH J. WEIR, Asso-
ciate Principal.

PATENT BUSINESS.

We have lately associated with us in the Patent and Me-
chanical Department of the Mining and Scientific Press, a
gentleman of superior ability and attainments, who has
arrived direct from the leading patent agency in New York
City, and having a faithful and reliable associate in Wash-
ington City, we are now better than ever before prepared
to secure the claims of our applicants, in a careful, prompt
and efficient manner.
DEWEY & CO.,
San Francisco, June, 1886. Patent Solicitors.

Professional Cards.

FREDERICK MANSELL.

Mechanical & Architectural Draughtsman,

No. 422 California street, corner of Leidsdorff.

Drawings of Monuments made for parties applying for pa-
tents at Washington or London. mar23-tf.

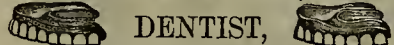
JAMES M. TAYLOR,

Attorney and Counsellor at Law,
COURT-COMMISSIONER, appointed by the Fourth District
Court, COMMISSIONER OF DEEDS for Nevada

Court Block, San Francisco.

Entrances opposite City Hall, Merchant street, and 638
14v11tf Clay street.

DR. H. AUSTIN,



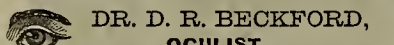
DENTIST,

No. 634 Washington Street,

Between Montgomery and Kearny Streets

[OVER SAN FRANCISCO BATHS]

SAN FRANCISCO. 20v10-q7

DR. D. R. BECKFORD,
OCULIST,

Office of Dr. Beckford's "Golden Eye Water,"

15v12-3m NO. 719 CLAY STREET.

AUGUST KUNAST,

Stock Broker.

Member of the

San Francisco Stock and Exchange Board,

Buys and Sells Stocks, Bonds, Etc.

Office, No. 540 Washington Street, San Francisco.

2v10

WILLIAM P. BLAKE,

MINING ENGINEER,

Will make Surveys and Examinations of Mines, or give
advice regarding their working, the erection of Ma-
chinery, etc.
Office at Union Iron Works, corner of First and Mission
sts., or Lock Box 2,077 Post Office, San Francisco.

11v22q7

GEORGE H. BAKER,

Lithographer & Engraver,

No. 522 Montgomery St., San Francisco.

MINING STOCK CERTIFICATES LITHOGRAPHED
IN MOST ARTISTIC STYLE. CALL AND
EXAMINE SPECIMENS.

10v8-tf

SHERMAN DAY,

Mining Engineer,

No. 57 Montgomery Block, San Francisco.
Will examine, survey and report on mines, and consult
and advise concerning investments in mining property, or
the machinery management and expenditures of mines.
22a*

New Mining Advertisements.

Diamond Copper Mining Company, Rockland
District, Del Norte County, California.Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the eighth day of August,
1886, an assessment of one dollar per share was levied
upon the capital stock of said Company, payable immedi-
ately, in United States gold coin, to R. B. RANALL,
Superintendent at Crescent City, Del Norte County, or to
the Secretary, at the office of the Company, No. 33 Mont-
gomery Block, San Francisco, Cal.
Any stock upon which said assessment shall remain un-
paid on the seventh day of September, 1886, shall be deemed
delinquent, and will be duly advertised for sale at public au-
ction, and unless payment shall be made before, will be sold
on the twenty-fifth day of September, 1886, to pay the delin-
quent assessment, together with costs of advertising and ex-
penses of sale. By order of the Board of Trustees.

J. A. COULIDGE, Secretary

Office, 33 Montgomery Block, San Francisco. aul1

Great Central Mining Company.—Location of
Works: Yuma County, Arizona Territory.Notice.—There are delinquent upon the following de-
scribed stock, on account of assessment levied on the
second day of July, 1886, the several amounts set op-
posite the names of the respective shareholders, as fol-
lows:

Names.	No. Certificate.	No. Shares.	Amount.
Kellogg, James.....	175	50	50 00
Livingston, H. B.....	124	20	20 00
Synnot, John.....	274	40	40 00
Wheaton, Wm R.....	133	20	20 00
Wheaton, Wm R.....	239	20	20 00
Wheaton, Wm R.....	233	20	20 00

And in accordance with law, and an order of the Board
of Trustees, made on the second day of July, 1886, so many
shares of each parcel of said stock as may be necessary,
will be sold at public auction, by Olney & Co., at No. 413
Montgomery street, San Francisco, Cal., on the twenty-
seventh day of August, 1886, at the hour of 4 o'clock, P.
M. of said day, to pay said delinquent assessment thereon,
together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.

Office, No. 302 Montgomery street, San Francisco. aul1

Kentucky Copper Mining Company, Calaveras
County, Cal.Notice.—The Annual Meeting of the stockholders of the
Kentucky Copper Mining Company, will be held at the
office of the Company, 514 Washington street, on WEDNES-
DAY, the 22d day of August, 1886, at 8 o'clock P. M.

J. A. BAUER, Secretary.

San Francisco, August 7, 1886. aul1

Old Colony Silver Mining Company.—Loca-
tion of Works: Austin, Reese River, Nevada.Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the seventh day of
August, 1886, an assessment of five (\$5) dollars per share
was levied upon the capital stock of said Company, payable
immediately, in United States gold coin, to the Secretary,
623 Montgomery street, San Francisco, Cal.
Any stock upon which said assessment shall remain un-
paid on the seventeenth day of September, 1886, shall be
deemed delinquent, and will be duly advertised for sale
at public auction, and unless payment shall be made before,
will be sold on Friday, the fifth day of October, 1886,
to pay the delinquent assessment, together with costs of
advertising and expenses of sale. By order of the Board of
Trustees.

HENRY O. HOWARD, Secretary.

Office, 623 Montgomery street, San Francisco. aul1

The San Francisco MINING PRESS, one of the ablest jour-
nals of its kind in the country.—(N. Y. Stockholder and
Mining Herald.

Rattlesnake Gold and Silver Mining Company,

Spring Valley District, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the eighth day of Au-
gust, 1886, an assessment of one (\$1) dollar per share was
levied upon the capital stock of said Company, payable
immediately, in United States gold and silver coin, to
the Secretary, at his office, No. 318 California street,
San Francisco, Cal.
Any stock upon which said assessment shall remain un-
paid on the twelfth day of September, 1886, shall be deemed
delinquent, and will be duly advertised for sale at public
auction, and unless payment shall be made before, will be
sold on Wednesday, the third day of October, 1886, to pay
the delinquent assessment, together with costs of advertis-
ing and expenses of sale. By order of the Board of Trustees.
JOHN F. LOHSE, Secretary.
Office, 318 California street, San Francisco.
San Francisco, August 9th, 1886. nullSimpson Mining and Milling Company, Mokel-
nme District, Alpine county, State of California.Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the third day of Au-
gust, A. D. 1886, an assessment of thirty cents per share
was levied upon the capital stock of said Company, pay-
able by the fourth day of September next, in gold coin of
the United States, to the Secretary, at his office, south-
west corner of Front and Jackson streets, up stairs, San
Francisco, State of California.
Any stock upon which said assessment shall remain un-
paid on the fourth day of September next, shall be deemed
delinquent, and will be duly advertised for sale at public
auction, and unless payment shall be made before, will be
sold on the twenty-fourth day of September next, to pay
the delinquent assessment, together with costs of advertis-
ing and expenses of sale. By order of the Board of
Trustees.

T. B. BIOELOW, Secretary.

Office, southwest corner of Front and Jackson streets, up
stairs, San Francisco, State of California. aul1

Santa Cruz Petroleum Oil Works Company.—

Location: Santa Cruz County, State of California.

Notice.—There are delinquent upon the following de-
scribed stock, on account of assessment levied on the second
day of July, 1886, the several amounts set opposite the names
of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bralley, Patrick.....	505	10	\$ 5 00
Cram, Mrs. Elizabeth.....	701	7	3 00
Craigie, Thomas.....	92	18	9 00
Dierking, Chas.....	614	35	17 50
Himrod, O. W.....	60	10	5 00
Himrod, O. W.....	51	10	5 00
Himrod, O. W.....	102	10	5 00
Himrod, O. W.....	63	10	5 00
Himrod, O. W.....	64	10	5 00
Himrod, O. W.....	257	7	3 50
Hardy, Dr. Ben F.....	63	25	12 50
Klein, S.....	741	20	10 00
Langdon, Dr. Samuel.....	173	20	10 00
Langdon, Dr. Samuel.....	222	50	25 00
Langdon, Dr. Samuel.....	342	11	5 50
Meder, Mrs. Sarah D.....	91	1	50
Meder, Mrs. Sarah D.....	92	1	50
Meder, Mrs. Sarah D.....	93	3	1 50
Meder, Mrs. Sarah D.....	256	1	50
Moore, J. H.....	325	300	150 00
Russell, Mrs. C.....	20	20	10 00
Reichert, J. A.....	500	10	5 00
Reed, H. R.....	730	25	12 50
Slocum, W. N.....	490	52	26 00
Sheldon, J. P.....	732	15	7 50
Sheldon, J. P.....	733	200	100 00
Winship, E.....	330	5	2 50
Winship, E.....	625	25	12 50
Winship, E.....	633	50	25 00
Winship, E.....	624	25	12 50
Winship, E.....	65	100	50 00
Winship, E.....	625	50	25 00
Winship, E.....	627	25	12 50
Winship, E.....	628	15	7 50
Wertelheimer, L.....	742	25	12 50
Zimmerman, J. A.....	750	20	10 00

And in accordance with law, and an order of the Board
of Trustees, made on the second day of July, 1886, so many
shares of each parcel of said stock as may be necessary,
will be sold at public auction, by Messrs. Cobb & Slinton, 407
California street, San Francisco, on Tuesday, the twenty-
eighth day of August, 1886, at the hour of 12 o'clock, M. of
said day, to pay said delinquent assessment thereon, to-
gether with costs of advertising and expenses of sale.

R. WEGENER, Secretary.

Office, 415 Montgomery street, San Francisco, Cal. aul1

Office of the Tellurium Gold and Silver Min-
ing Company, Kearny and Clay streets.—San Francisco,

August 2, 1886.

CAUTION!—The following Certificates of Stock were this
day sold by Messrs. Olney & Co., auctioneers, for non-pay-
ment of assessments, and all persons are hereby cautioned
against negotiating for them, as they will not be transferred
by the Secretary:

In Name of	Certificate.	No. Shs.	No. Shs. Sold.
J. S. Dimon.....	66 to 70 inc.	100	100
David Dick.....	94	30	15 00
P. P. Hols.....	45	2	1 00
G. S. Hall, Trustee.....	102	40	5 00
E. J. Jones.....	59	6	3 00
E. O. Matthews.....	63	60	25 00
J. P. McCurrie.....	2	4	1 00
G. H. McCurrie.....	3	1	50
M. A. Perrier.....	24	5	2 50
R. Reimann.....	17 to 19 inc.	3	1 50
E. D. Waters.....	100	25	12 50
Abel Wade.....	63	10	5 00
I. R. Purdy.....	39	30	15 00

By order of the Board of Trustees.

WM. G. RYDER, Secretary.

Office, N. E. cor. of Kearny and Clay streets. aul1-4w

Mining Notices--Continued.

Assurance Mining Company, Occidental
Lode, San Benito Mining District, County of Monterey,
State of California.Notice.—There are delinquent upon the following de-
scribed stock, on account of assessment levied on the sec-
ond day of July, 1886, the several amounts set opposite
the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
W. F. Brandreth.....	2 and 18	10 ca	\$10 00
W. F. Brandreth.....	20	5	2 50
W. F. Brandreth.....	26	30	15 00
O. C. Wheeler.....	27	150	75 00
Wm. Leffingwell.....	21	150	75 00
Wm. Leffingwell.....	22	30	15 00
E. A. Forrester.....	15	24	12 00
A. J. Weaver.....	8	30	15 00
Levi Gish.....	14	6	3 00
Wm. M. Whitney.....	25	150	75 00

And in accordance with law, and an order of the Board
of Trustees, made on the second day of July, 1886, so
many shares of each parcel of said stock as may be neces-
sary, will be sold at public auction, by Messrs. Olney &
Co., No. 413 Montgomery street, San Francisco, Cal., on
the twentieth day of August, 1886, at the hour
of 11 o'clock A. M. of said day, to pay said delinquent as-
sessment thereon, together with costs of advertising and
expenses of sale.

H. H. RUSSELL, Secretary.

Office, 302 Montgomery street, Room No. 4, San Fran-
cisco, Cal. aul1

Arizona Consolidated Mining Company,

Bureka District, Arizona Territory.

Notice.—There are delinquent upon the following de-
scribed stock, on account of assessment levied on the third
day of July, 1886, the several amounts set opposite
the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
John N. Elliot.....	279	45 1/2	\$22 75
Stephen J. Slada.....	271	2	1 00
S. Schmitz.....	202, 250	7	3 50
Stephen Otis.....	269	150	75 00
George Lewald.....	33	23	14 00
Thomas Hopkins.....	94	50	25 00
J. M. Short.....	203	1/2	25 00
O. Schilliber.....	180	20	10 00
Frank Clark.....	130	2	1 00
R. H. Waller.....	168, 153	84	42 00
John J. Scotchler.....	260	6	3 00
O. C. Mitchell.....	131	6	3 00
Mrs. C. S. Otis.....	197	6	3 00
J. B. Lynde.....	278	25	12 50
M. J. Duncan.....	218	10	5 00
Jas. B. Moore.....	205	100	50 00

Confortita Gold and Silver Mining Company, Sinaloa, Mexico.

Notice is hereby given, that a Special Meeting of the stockholders of the Confortita Gold and Silver Mining Company, will be held at the Company's office, Room 3, second floor, No. 505 Montgomery street, San Francisco, on SATURDAY, the 25th day of August, 1886, at 10 o'clock A. M., at which a full representation of the capital stock is requested. By order of the Board of Trustees.

J23

T. W. COLBURN, Secretary.

Cordillera Gold and Silver Mining Company, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1886, an assessment of one dollar per share was levied upon the capital stock of said company, payable immediately in United States gold coin, to the Secretary, No. 321 Washington street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. R. REED, Secretary.

Office, 321 Washington street, San Francisco, Cal., near Front.

N. B.—Until further notice, all advertisements of this Company will appear in the Mining and Scientific Press.

J21

Caution—Cosala Silver Mining Company.

The following Certificates of Shares in the capital stock of the above-named Company, were sold to pay delinquent assessment and expenses of advertising and sales, on the twenty-eighth day of July, 1886, at the auction rooms of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, at twelve o'clock, noon:

In Name of	No. Certificate.	No. Shares.
Armas & Dallam	557	20
James Jordan	45	5
Michael Scholl	279	10
Michael Scholl	480	10
Michael Scholl	577	30
H. H. Toland	105	123
H. H. Toland	122	100

Parties are hereby cautioned against purchasing the above described certificates of stock.

CHAS. BAUM, Secretary.

Office, 610 Battery street, San Francisco, Cal. a4

Cosala Silver Mining Company, Cosala District, State of Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1886, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately in gold coin of the United States, to Chas. Baum, Secretary, at the office of this Company, No. 515 Battery street, opposite the Custom House, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

CHAS. BAUM, Secretary.

Office, No. 515 Battery street, opposite the Custom House, San Francisco, Cal. a4

Del Norte Comstock Company, Location: Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of July, 1886, an assessment of one dollar and forty-five cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, No. 331 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twenty-fourth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary.

Office, 331 Montgomery street, San Francisco, Cal. J28

Engle Quartz Mining Company, Location of Works: Anador County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh (11th) day of July, 1886, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 30 Exchange Building, 113 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the eighteenth (18th) day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN M. BURNETT, Secretary.

Office, No. 10 Exchange Building, San Francisco, Cal. J21

Gold Hill Tunneling Gold and Silver Mining Company, Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 31st day of July, 1886, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, R. W. Egener, 415 Montgomery street, San Francisco, California, or to the Superintendent, Mr. H. H. Hoyer, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. W. EGENER, Secretary.

Office, 415 Montgomery street, San Francisco, Cal.

A discount of three (3) per cent. will be allowed on all payments made on the above assessment on or before Friday, the 10th day of August, 1886. By order of the Board of Trustees.

J21

R. W. EGENER, Secretary.

San Francisco, August 1, 1886. a4

Economy in Advertising.—The Mining and Scientific Press is the best and most economical mining advertising medium in this city. Our terms are less than one-half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper paper for the concentration of mining patronage.

The Press is a large, sixteen-page paper, and is truly a valuable assistant to the mining interests of the Pacific Coast.—[Bye County News.]

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 26th day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adams, C. P.	174	5	\$7 50
Bowland, Wm	231	5	7 50
Boggs, Geo W	141	5	9 00
Boggs, A G	67	11	10 50
Christensen, Philip	175	15	15 00
Christensen, Philip	176	10	15 00
Cook, A J	03	10	15 00
Clark, J Warren	not issued	10	15 00
Clark, Miriam	124	23	37 50
Chobson, Margaret	208	2	3 00
Custer, John	278	5	7 50
Coom, M R	324	5	37 50
Grishy, T L	94	10	15 00
Grishy, R F	100	10	15 00
Grishy, A D	100	10	15 00
Grishy, E D	79	10	15 00
Kalher, Chas	90	15	22 50
Linn, Geo	263	10	15 00
Mosher, Wm H	10	5	7 50
Miller, J E	185	10	15 00
Miller, J E	305	2	3 00
Pearson, I N	12, 213-5 ea	10	15 00
Phillips, W L	275	10	22 50
Phillips, W L	275	10	15 00
Rusley, J B	107	4	6 00
Rusley, J B	177	4	7 50
Schmitt, John W	143	14	21 00
Snow, H H	289, 290 10 ea	24	30 00
Snow, H H	326	6	9 00
Vick, J	245	10	15 00
Vick, J	293	5	7 50
Whitton M S	185, 180, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196 10 ea	120	180 00
Whitton, Wm T	24	10	15 00
Whitton, C J	246	5	7 50
Ward, Norah	247	3	4 50
Wittram, Charles	317	10	15 00

And in accordance with law and an order of the Board of Trustees made on the 26th day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on the 13th day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. D. ROOT, Secretary.

Office, 338 Montgomery street, San Francisco, Cal. J28

Hanacom Copper Mining Company, Location: Del Norte County, Low Divide District, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1886, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at 609 Market street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighteenth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. S. SWEET, Secretary.

Office, 609 Market street, San Francisco, Cal. a4

Kentucky Copper Mining Company, Mine Felix District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of August, 1886, an assessment of one dollar per share was levied upon the capital stock of said Company, payable on the third day of August, 1886, in United States gold and silver coin, to the Secretary, at his office, 644 Washington street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the fifth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-sixth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. BAUER, Secretary.

Office, 644 Washington street, San Francisco, Cal. a4

Lady of the Lake Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 20th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the twenty-first day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 22d day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 10th day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLS, Secretary.

Office, No. 302 Montgomery Street, Room No. 2, third floor, San Francisco, Cal.

N. B.—By resolution of the Board of Trustees, it was ordered that a discount of three per cent. be allowed on all payments made prior to August 24, 1886.

WM. HOLLS, Secretary.

J21

Leland Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 20th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the 21st day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 22d day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 10th day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLS, Secretary.

Office, No. 302 Montgomery street, Room No. 2, third floor, San Francisco, Cal.

N. B.—By resolution of the Board of Trustees, it was ordered that a discount of three per cent. be allowed on all payments made prior to August 24, 1886.

WM. HOLLS, Secretary.

J21

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and its execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for Book and Pamphlet Printing entrusted to the Mining and Scientific Press Job Office.

Postage.—The postage on the Mining and Scientific Press to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance to the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German Coast (via Bremen and Hamburg) three cents per copy, prepaid. Single copies to any address in the United States, two cents.

Lady Bell Copper Mining Company, Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of August, 1886, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 311 Market street, San Francisco, or to G. W. Russell, Crescent City.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

C. REYWOOD, Secretary.

Office, 311 Market street, San Francisco, Cal. a4

Lady Bryan Gold and Silver Mining Company, Location of Works: Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of July, 1886, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, 523 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the eleventh day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. O. HOWARD, Secretary.

Office, 523 Montgomery street, San Francisco, Cal. J21

North America Tin Mining Company, Location of Works: Durango, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bell, G. W. Estate of	87, 105, 107	140	\$54 00
Beyea, J. L.	89, 90, 98	86	34 00
Brown, E. P.	155	25	10 00
Christensen, C.	95	8	3 20
Dwuelle, J. W.	8	100	40 00
Fox, J. W.	69	100	40 00
Haines, John S.	174	200	80 00
Proctor, John	88	3	1 20
Simmons, G. L.	71, 140	8	3 20
Washburn, E. H.	112, 143	300	120 00
White, Robert N.	115	10	4 00
Miller, J. E.	101	50	20 00

And in accordance with law, and an order of the Board of Trustees, made on the 21st day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, on the 20th day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

I. N. THORNE, Secretary.

Office, Room No. 7, at 535 Clay street, San Francisco, Cal. a4

Nuestra Senora de Guadalupe Silver Mining Company, Tayollita District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 25th day of June, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, at the office, No. 210 Post street, or to the Treasurer, A. H. Himmelman, at his office, No. 327 Washington street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 31st day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the 18th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.

Office, 210 Post street, San Francisco, Cal. J20

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Monday, the 27th day of August, 1886, and the sale thereof until Monday, the 17th day of September, 1886. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.

J28

Sweet Vengeance Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Barroilbet, H	36 and 479	10 ea	\$20 00
Barroilbet, H	476	15	15 00
Brown, Wm H	71	10	10 00
Brown, Wm H	154 and 193	5 ea	10 00
Brown, Geo	4	9	10 00
Bent, Ed F	164	10	10 00
Brucque, J B	142	100	100 00
Brucque, F	191	5	5 00
Brucque, F	285	4	4 00
Bendel, H	239 and 274	10 ea	20 00
Bendel, H	517	40	40 00
Bendel, H	554	30	30 00
Crevolin, F	83	20	20 00
Cassell, A	182	100	100 00
Drathman, W T	181	15	15 00
Drathman, W T	275	10	10 00
Drathman, W T	482	120	120 00
Daniel, G	616	25	25 00
Edlin, H and Edinger, P	382	35	35 00
Grub, Wm H	654	7	7 00
Kirsh, Jos	504	3	3 00
Losbe, J F	48	10	10 00
Lohse, J F	292	5	5 00
Lohse, J F	294	45	45 00
Lohse, J F	300	30	30 00
Lohse, J F	424 and 425	15 ea	30 00
Michaelson, H	254	9	9 00
Moses, E	601	100	100 00
Mosher, H	592	200	200 00
Pavillier, A	559	100	100 00
Pavillier, A	588	100	100 00
Puljak, J	107, 155, 200, 283	5 ea	20 00
Sublet, A E	200	200	200 00
Schidtopf, C	104	10	10 00
Schidtopf, C	101	5	5 00
Schidtopf, C	192	5	5 00
Schidtopf, C	553	4	4 00
Thyarks, H	169 and 162	15 ea	30 00
Thyarks, H	190	10	10 00
Thyarks, H	211	30	30 00
Taylor, Thos	587	100	100 00
Thyarks, H	273	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, on the 10th day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

F. S. SPRING, Secretary.

Office, No. 705 Sansome street, San Francisco, Cal. J28

San Marcial Silver Mining Company, Location of Works: San Marcial District, Hermosillo, State of Sonora, Mex.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-seventh day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Cabellero, Anstee	14	3	\$ 1 50
Curtis, H K	130	5	2 50
Goddard, P R	265	10	5 00
Heles & Co, Herman	264	10	5 00
Lansing, James	202	20	10 00
Lansing, James	310	3	1 50
Murphy, S S	42	500	250 00
Murphy, S S	91	100	50 00
Murphy, S S	105	50	25 00
Murphy, S S	203	5	2 50
Murphy, S S	239	100	50 00
Murphy, S S	219	40	20 00
Murphy, S S	320	25	12 50
McDonald, M L	328	10	5 00
Myer, L Lemmon, Trustee	323	85	42 50
Myer, L Lemmon, Trustee	338	82	41 00
Pearson, J W	274	5	2 50
Rountree, B F	42	500	250 00
Rountree, B F	44	60	45 00
Rountree, B F	285	300	150 00
Tinsin, W W	45	300	150 00
Tinsin, W W	46	200	100 00
Tinsin, W W	47	100	50 00
Tinsin, W W	160	47	23 50

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective millers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

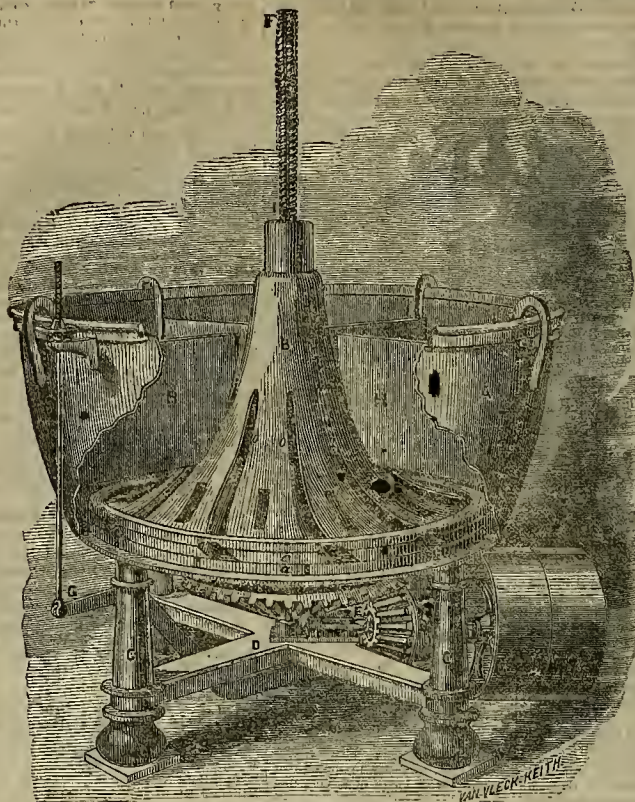
Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been brimished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,
WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits. They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

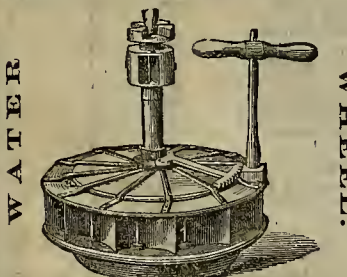
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
171 San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in mill-race or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to
KNAPP & GRANT,
—ALSO—
San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by
KNAPP & GRANT,
12v12-3m San Francisco.

The Hansbrow Pumps ARE WARRANTED THE BEST.

FIFTEEN KINDS AND SIZES,
Adapted for FARM,

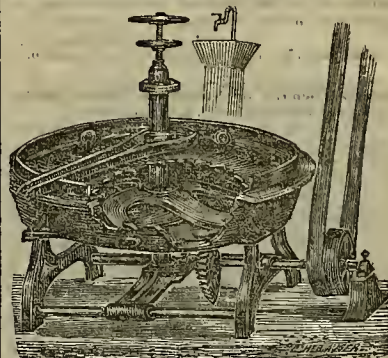
Mill and Mining Purposes.

HAND, WIND, HORSE, WATER AND STEAM POWER
For sale in every city and town on the Pacific Coast.

LOCKE & MONTAGUE, Agents,
112 and 114 Battery Street, San Francisco.

Send for Illustrated Catalogue, 23v12-2m

BAUX & GUIOD'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1864, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIOD'S Pan, are the following: The tripling cost for attendances; Its small cost; Its portability. The large quantity of pulp it can operate upon in a given time. It may be worked even weeks without stopping, as it is constructed to work continuously. The complete thoroughness of the separation of the rock from the metals and the trifling power required to work them. They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jefferson Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Crall's Gravel Cement Works, Nevada county; Walman's Chlorination Works, Nevada, Cal.; Gold Hill Quartz Mill, Yachoo.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Heugh & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address
J. B. BAUX,
Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 4v5-6m

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE

ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent,

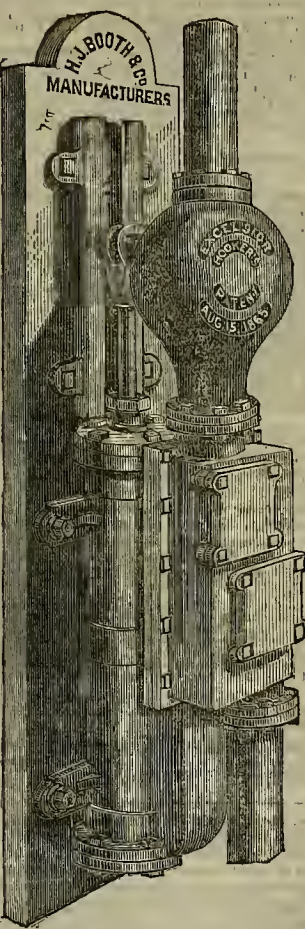
At JOB M. SEAMAN & CO'S, 631 WASHINGTON STREET, San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the MINING and SCIENTIFIC PRESS. 2v13p16-tf

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH and K STREETS, M. Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 19v12

EXCELSIOR PUMP!



HOOKE'S PATENT!

CHALLENGES COMPETITION!

THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets" thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufacturers, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITTAN & CO.,

General Agents, 120 Front street, San Francisco. 2v13m

Send for Price List.

STODDARD'S CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER, OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$16 and \$18. For sale by

S. B. STODDARD, Corner of Battery and Pacific streets 25v12-3m

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tallings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention. 15v12-3m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

19v12 416 Market street, San Francisco.



FLORENCE SEWING MACHINES!

COPY OF THE REPORT OF THE COMMITTEE OF AWARDS AT THE FAIR OF THE

AMERICAN INSTITUTE,

New York, 1865,

—TO THE—

Florence Sewing Machine Company,
FOR THE BEST FAMILY SEWING MACHINE.

HIGHEST PREMIUM—GOLD MEDAL!

REASONS:

- 1st.—Its simplicity and great range of work.
- 2d.—The Reversible Feed Motion.
- 3d.—The perfect finish and substantial manner in which the machine is made.
- 4th.—The rapidity of its working and the quality of the work done.
- 5th.—The Self-adjusting Tension.

The "FLORENCE" was awarded the First and Highest Premium at the State Fair of California, the only Fair on the Pacific Coast at which any two double-thread Sewing Machines were exhibited in competition in 1865.

The "FLORENCE" received the only premium awarded by the Mechanics' Institute of San Francisco, in 1864 and 1865, to any Sewing Machine, Sewing Machine Company, or Agent. The claim of a competitor to a medal is without any foundation whatever.

Wherever the "FLORENCE" has been brought in competition with other Sewing Machines, it has always been declared the best. It is the most simple, the most substantial, the most efficient, and its use is easily learned. Every Machine sold is guaranteed in the full sense of the word.

Send for Circulars and Samples of Work.

SAMUEL HILL, General Agent,

20v12-14w 111 Montgomery street, San Francisco.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by

THOMAS H. SELBY & CO., Nos. 116 and 118 California street

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rod, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12-3m

NEW QUARTZ PULVERIZER.—The Grass Valley Union says that Mr. P. Fox, an experienced engineer and machinist, is endeavoring to introduce into the quartz mills of that place a pulverizer, for which he has obtained a patent. He states from what he has seen of quartz tailings there, that his pulverizer is a *sine qua non* in every mill, as it receives the crushed quartz from the battery, and then reduces it to an impalpable powder by means of rotary grinding stones. At the Ophir they have cylindrical grinders, which are very good, but he claims that his grinders, being of stone, reduce the quartz to a finer state, and is also a much quicker process. One pulverizer is sufficient for five stamps. The expense is very moderate, and the machine is readily applied. It is the arasta principle, but the action is quicker and the quartz reduced finer. There is a great difference in the cost.

THE DIFFERENCE.—The Stockton Independent, alluding to the comparative cost of mining operations in California and Nevada, says: One great advantage in engaging in working mines in this State, in preference to mines elsewhere, is the comparatively small cost of mining and reducing ores in California. Compare California with Nevada, for instance: It appears that it cost the Chollar Potosi Company last year, on an average, \$22.27 per ton to mine and work its ores. In California the cost of mining and reducing the ores ranges from \$4 to \$8 per ton—\$5.50 being about the average. Thus, in this State, gold ore which will yield \$10 per ton will yield a rousing profit, while silver ore in Nevada paying \$20 per ton cannot be worked except at a great loss. Those seeking for mining investments should bear these important facts in mind.

SPONGES.—It may surprise the reader to be informed that the quantity of sand he finds in a new sponge has not been inclosed there, by the animal or vegetable during its growth, but is an adulteration practised by the agents and merchants who purchase the sponge from the divers, in order to increase its weight and their profit. Sand of the fineness requisite for the purpose, is mixed with water, in which there is a little gelatine or gum to enable the sponges to take up and retain it the better, and without being detected afterwards; the sponges are then well kneaded into it, so as to fill up their minute pores and dried. In this way a hundred weight of sponges in their dry state, will be so sanded as to weigh more than a ton before they are packed for exportation to Europe.

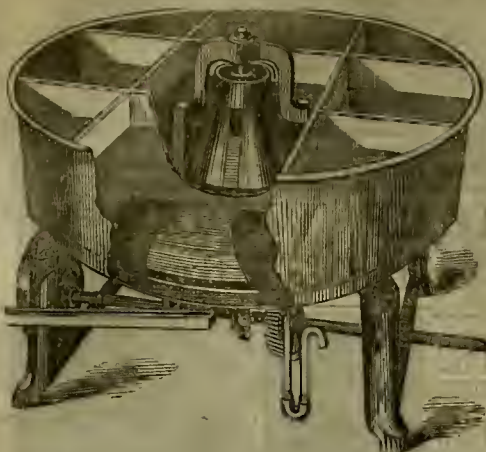
WATER-PROOF ENAMEL FOR CARD PHOTOGRAPHS.—The following process for enameling cards is a very good substitute for the collodion transfer process, and is much easier of application. First apply to the surface of the card, with a brush, a solution of gum arabic in water, of sufficient strength to give considerable gloss when dry. As soon as dry apply a coating of plain collodion in the same manner as coating a plate. If the solution is not very tough, two or three coatings may be applied to advantage. Finish by passing the card through a roller and you will have a fine gloss. Care must be taken not to have the gum solution too thick, or the surface will crack when dry, though there is but little danger if the collodion is applied soon after the gum is dry. Gelatin, instead of gum arabic, answers the purpose well, though it gives hardly as much gloss. Perhaps you or your readers may have a better process than this. If so, let us have it.—*Philadelphia Photographer.*

VARNISH FOR PHOTOGRAPHS.—M. Bussi first brushes the prints over with a solution of gum arabic, and when this is dry, applies a coating of collodion. The following are the proportions recommended: 1. Clear transparent gum arabic, twenty-five grammes; distilled water, 100 cub. cents; dissolve and strain. 2. Gm cotton, three grammes; alcohol, sixty grammes; ether, fifty grammes. By this double varnish the inventor insures the preservation of the proofs.—*Chemical News.*

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IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning corporations," passed April 22, 1884, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD—\$750,000.
II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS, \$1,051,243.57.
III.—The Company has NO DEBTS.
IV.—The amount of insurance effected during the year, and which remained in force December 31, 1885: Marine, \$12,973,949; 454,408
This Company commenced underwriting Marine Risks, August 1, 1885.
V.—This Company insures against the following risks, viz.: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.
Also, on CARGOES, TREASURES, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL MARINE AND INLAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.
VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.
J. HUNT, President.
A. J. RALSTON, Secretary.

San Francisco, January 19, 1886.
Louis McLane, Edward Martin, A. Hayward,
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A. L. Tubbs, Moses Ellis, Alex. Well,
William Alvord, E. L. Johnston, C. Meyer,
Frederick Billings, Wm. T. Coleman, J. D. Fry,
Jonathan Hunt, John O. Earl, M. Rosenbaum,
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L. Sachs, D. J. Oliver, C. T. Wheeler,
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D. O. Mills, Oliver Eldridge, Portland, Oregon,
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G. H. Howard, S. Steinhart, Jacob Kamm,
Moses Heller, P. L. Weaver, Virginia, Nevada,
H. M. Newhall, Wm. Hoover, Wm. Sharou,
G. T. Lawton, Alfred Borel.

State of California, City and County of San Francisco, ss.
On this nineteenth day of January, A. D. one thousand eight hundred and eighty-six, personally appeared before me, H. S. Homans, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. Ralston, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.
Sworn and subscribed to before me, this 19th day of January, A. D. 1886.
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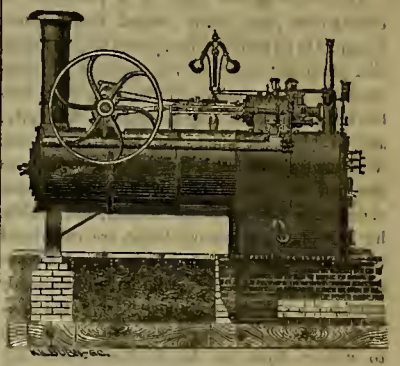
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HOADLEY'S.

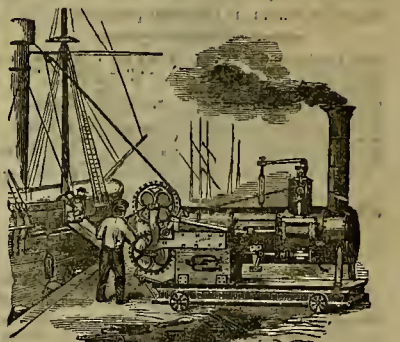
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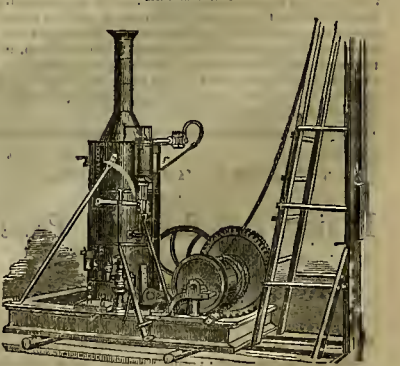
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NEW PUBLICATIONS.

EPIDEMIC CHOLERA; Its Modes of Treatment; Their Respective Results; with Directions for Prevention; and what to do in Cases of Sudden Emergency. By John F. Geary, M. D., San Francisco; H. H. Bancroft & Co., 1866.

The above is a pamphlet of fifty-four pages, designed for popular information with regard to the medical treatment of cholera. The author belongs to the homœopathic, or "New School of Medicine," and the chief portion of the work is devoted to a popular review of the different modes of treatment adopted severally by the allopathic and homœopathic practitioners. The concluding pages are devoted to a consideration of the public sanitary measures necessary to be taken in view of the approach of epidemic cholera; the modes of prevention, and what to do in cases of sudden emergency. Of course the remarks under these several heads are made from a homœopathic stand-point, and will prove of especial interest to all such as prefer that mode of practice.

A TREATISE ON SHIP BUILDING: A Plain Statement of the Process of Delineating the Lines of a Vessel on a Floor.

The above is the title of a pamphlet of twenty-four pages, with several illustrations, designed to be placed before young ship-builders, as a plain statement of the process of ship drafting. The author, William Laister, who has been a practical ship-builder in this city, and on this coast since 1852, has prepared this work for the especial benefit of those who have not had an opportunity of consulting more elaborate works upon the subject, and which, he thinks, as a general thing, are calculated to perplex rather than instruct, or, at least, are of but little use to those who have not already attained a preliminary knowledge of the business. The aim of the present writer has been to write a book on ship-drafting which any shipwright can understand; and which, whatever may be its merits or demerits, will no doubt be appreciated at its true value by those for whom it has been prepared.

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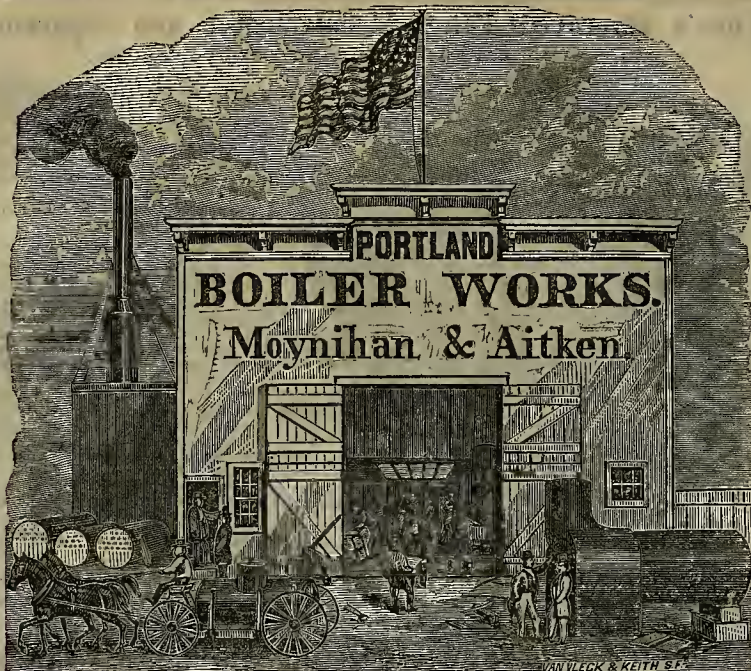
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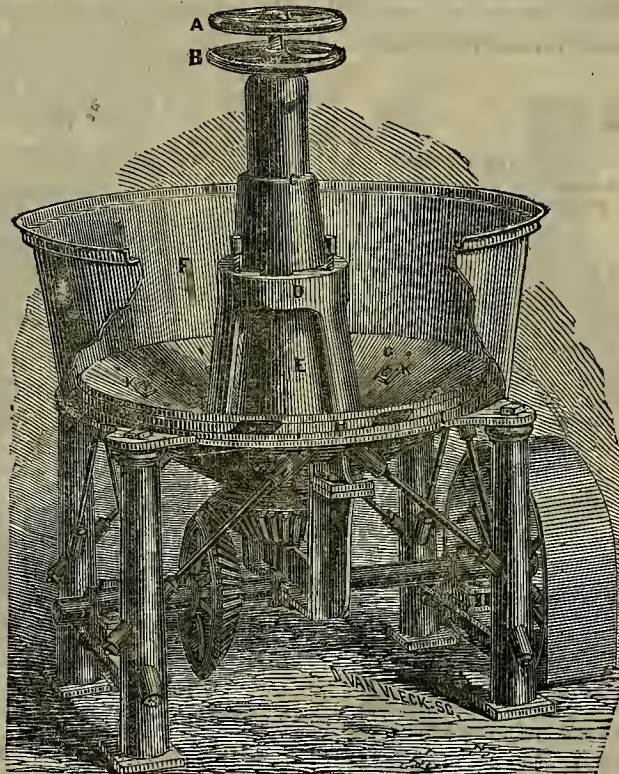
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AN IMPROVED TURBINE.

The growing demand, at the East, for water as a motive power, is acting as a stimulus for inventors to contrive the most economic use of such water that can be obtained. For small quantities, especially when a high head can be obtained, no class of wheels can be more conveniently and economically used than those known as turbine wheels; and it is consequently in that class of wheels, chiefly, that most of the improvements in water motors are now being made. When we consider the great amount of money expended throughout our

perspective view of the turbine complete; the other, is a view of the wheel and shaft.

This turbine is now being generally used throughout the East, and especially in New York, New Jersey, and the New England States, where great economy of water is necessary, from the constantly decreasing supply, owing to the clearing up and better cultivation and drainage of the land.

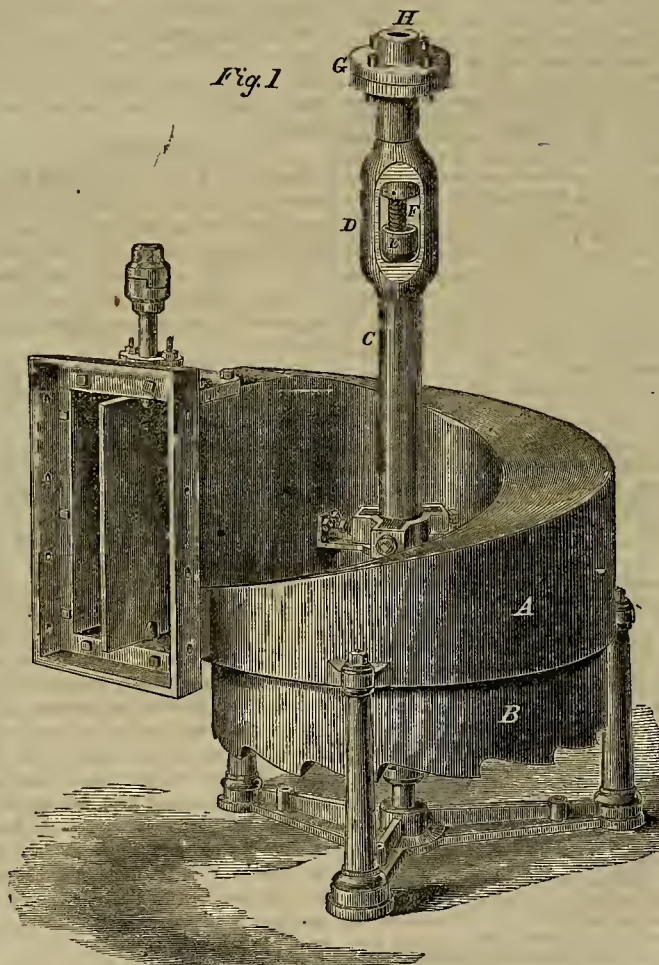
The inventor of this turbine experimented with one of his "Improved Jonval Turbines," at "Fairmount Works," Philadelphia, in 1859 and 1860, under the direction of H. P. M.

fully matured and carefully embodied in the Helical Turbine, in its present improved form, and by adding improvements that were found only in practice to be such, have made it the most complete, powerful, and durable turbine ever made, equal in efficiency and superior in simplicity of construction to the improved Jonval Turbine.

The step is made of steel, running in oil, upon a composition metal of peculiar construction, placed in the hollow shaft above the wheel, and so arranged that it can be taken out and cleaned and put back in its place in ten minutes, which is required to be done only once in about two months.

The issues of the wheel are large, and not liable to clog up with rubbish, and it runs equally well in backwater as out. It utilizes all the head.

It is said to have been fully tested by the side of the best constructed over-shot wheels in



PERSPECTIVE VIEW OF THE JONVAL TURBINE.

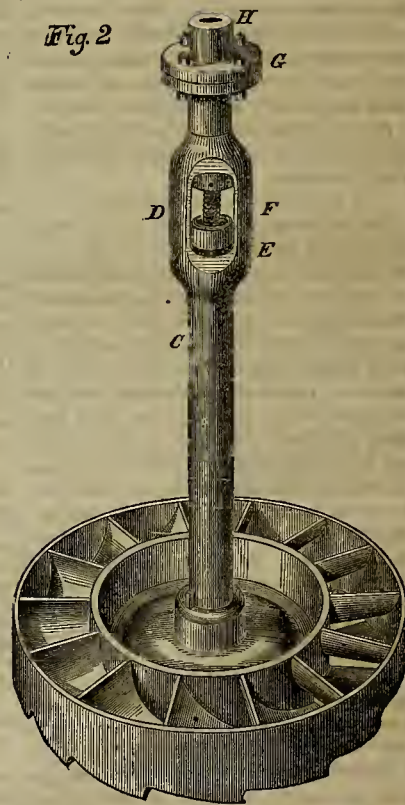
mining and manufacturing States, in procuring a supply of water, and saving it up for use during the dry season, the necessity of economizing its use becomes at once apparent, and we begin to realize the great importance of the water power of the country.

In this consideration the great object to be gained in selecting a water wheel, is to obtain one built on scientific principles, deduced from long practical experience, and which can be depended upon at all seasons of the year to give the greatest maximum of power with the average minimum of water.

The inventor claims to have attained these ends in the Helical Jonval Turbine, represented by the accompanying engravings. One is a

Birkibine, Chief Engineer of the Water Department, and O. H. P. Parker, Chairman of the Water Committee, producing a result, according to the test, of 8777 per cent. of useful effect, exclusive of the friction of the transmitting machinery, which was calculated at three per cent., making a total of 9077 per cent., being from six to twelve per cent. over all turbines of the same class, and from fifteen to twenty per cent. over the best scroll and centre wheels; thus coming in competition with nineteen different wheels by some of the best builders in the country, and obtaining results never before equalled in any practical test.

The main principles and features of the turbine producing these results have been more



WHEEL AND SHAFT.

the same mill, arranged so that the same machinery could be driven alternately by the over-shot and turbine, showing large results in favor of the turbine, in amount of water used, and greatly increased production, owing to the regularity of speed and power.

For further information address J. E. Stevenson, Hydraulic Engineer, 40 Day street, New York.

TO CORRESPONDENTS.—We have received another letter from our Reece River correspondent, "Progress," which will appear next week. We are much obliged for the favor from a Sierra correspondent, "J. H. C." which will appear in our next.

DANGER FROM BITING FINGER NAILS.—Most disastrous results have recently been ascertained to have resulted from the practice which many children have of biting their finger nails. A late correspondent of the *Country Gentleman*, writes that something over a year ago there died in his neighborhood a bright little girl of seven years—and no one, not even the physicians, could tell what caused her death; but some time after a case came to their knowledge of a child's dying under similar circumstances, on which a post mortem examination was had, and it was found that she had bitten off her finger nails and swallowed them, and they were found sticking in her stomach, which was ulcerated wherever they stuck. In the case first alluded to, the parents had known of the child biting her nails, but thought nothing of it until the other case was told them. They now suppose that was the cause of her death, and for the sake of other parents and children are desirous to make the above facts as widely known as possible. How many of the "little innocents" have thus come to an untimely end, is known only to Him by whom the hairs of our head are all numbered.

FISH PROPAGATION.—THE CHINESE STILL AHEAD.—The Chinese, to whom it appears, of late, we must look for the initiation of most of what have usually been considered modern ideas, have, from time out of mind, been in the habit of collecting the impregnated eggs of fish, and of depositing them in the clear streams irrigating their rice fields. Nay, they have even anticipated our eel-culture in a most ingenious manner for the purposes of pisciculture. In order to facilitate the hatching of fish-eggs, they are in the habit of making a small aperture in a fowl's egg, sucking out its contents, and replacing it with fecundated fish ova. The egg is then placed under the hen for a few days, and the ova are thereby so far ripened that it is only requisite to break the egg into egg-warmed water, in order to speedily produce—not a chicken, but a brood of young fishes! In China, notwithstanding its enormous population, fish is so cheap that it forms a very important part of the food of the people, and nothing, we are told, more astonishes the Celestials than the high price of that kind of food in this country.

AN EATABLE CANDLE.—A good deal of amusement may be created by making and eating what is apparently the old stump of a tall candle. This is done by cutting a piece of apple in the shape required, and sticking into it a little fragment of nut or almond. You then have a candle stump. The almond wick can be lighted, and will burn for more than a minute, so that the deception is perfect. You can afterwards eat it in the presence of the company.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Notes on the Chief Gold Districts Throughout the World.

BY PROFESSOR ROWLANDSON, F. G. S. L.

[Continued from page 66.]

HUNGARY AND TRANSYLVANIA—PRELIMINARY EXPLANATION.

In my earliest published views on the "Age of Gold Bearing Rocks," which appeared in the *Altus* in the year 1863, a part of which was copied *verbatim* in the MINING AND SCIENTIFIC PRESS, an opinion was expressed that in Hungary a probability existed that the gold found in that ancient auriferous region was derived from veins existing in Silurian, or, at all events, in paleozoic strata. Before the completion of the series, however, not only had that opinion become much modified, but almost completely changed; but on grounds and information too imperfect for anything like implicit adoption. Subsequently, a work on Hungary and Transylvania, by John Paget, came into my possession, which, although not written with any attempt at strict technical definition, is evidently the work of a gentleman who was somewhat acquainted with general geology, was a keen observer, and better still, an accurate describer. A perusal of the two volumes alluded to, which contained many interspersed geological observations, too numerous and lengthy for quotation, yet very pertinent, and highly corroborative of the general view taken by me respecting the Age of Gold Bearing Rocks, has satisfied me that it is exceedingly improbable whether gold can be found in the countries now under consideration, excepting as placer gold, in rocks of other than secondary or even more recent age. Before, however, entering into details more strictly connected with scientific geology, I shall proceed to make some lengthy extracts relative to some matters which will probably prove interesting not only to the general but also to the technical reader, as they are very little known, commencing with a brief account of

A BIG MINING TUNNEL AND DITCH.

This important work, which extends from Schemnitz to the valley of the Gran, is about ten English miles in length. It is called Joseph the Second's Adit, and has been constructed with the object of conveying the water from, and otherwise facilitating the drainage of mines, which, without such auxiliary aid, would not be workable. It is twelve mining feet high, and ten broad, and so constructed as to be used either as a canal or railroad, so that the ore may be carried to some more convenient point for smelting than Schemnitz. Its total cost amounted to more than \$2,500,000, and upward of fifty years were occupied in its construction. Near this tunnel a thin vein of coal was found—quality inferior; dykes of greenstone porphyry abound in the vicinity, accompanied by masses of trachyte, in which latter are found the celebrated opals of this region.

At Kremnitz the gold and silver matrix is entirely quartz, the rock generally greenstone; here, however, as at Schemnitz, the *uppermost veins have ever proved the richest*. Thanks to a patriotic Archbishop of Gran, Kremnitz enjoys a plentiful supply of water. In former times the prince of Hungary enjoyed the titles of Master and Assayer of the Royal Mint. The Archbishop alluded to constructed a water-course, at his own expense, from the county of Thorotz to Kremnitz, a distance of fifty English miles. There are some other matters in the vicinity of Kremnitz deserving of a brief notice, amongst which may be mentioned an interesting one connected with the

CAVING OR SLIDING IN OF UNDERMINED METALLIFEROUS MOUNTAINS.

In the one about to be described, near Kremnitz, Hungary, the crown of the mountain, for about eight hundred feet long and six hundred feet wide, has fallen in, so as to occasion a valley of considerable depth. There is no record or tradition as to what period this

rupture occurred. To some extent, however, the aspect of the rocks and adjacent country tells the tale, as the perpendicular face of the rock is, pierced in every direction with the mouths of old mining shafts and levels to which no passage now exists, and, consequently, must have been formed prior to the catastrophe. The aspect of the whole justifies the conclusion that the cave-in took place in consequence of the greed which abstracted too great a proportion of the underlying ore. The whole of the exposed underlying surface consists of quartz, and is described as presenting an appearance not greatly dissimilar to that of a ruined Sicilian temple.

The other remarkable instance of "caving in" is the *Csetatie Mare*, "the great fortress" in Transylvania. The outer top of this mountain has fallen in, exposing a vast hall in the heart of the mountain, which is open to the heavens. This can be entered by a cave at the side, large enough for laden horses, through which the visitor soon arrives at an immense open circular space completely walled in by solid rock. The upper part is described as having an opening something similar to that of an immense volcano. Into this space a large number of openings of old levels exist of varied sizes and forms, the remains of former workings, and are highly illustrative of the history of mining in Transylvania. There are to be seen small passages scarcely large enough for the body of a man, which may probably be assigned to the labors of the Dacians, the progenitors of the modern Wallacks. Here, also, may be witnessed the stately chiseled levels of the Romans, by the side of evidences that fire had been in some cases the agent employed for disintegration and extraction, not far from which may also be seen traces of the modern Wallacks' labors. It is considered that the mountain must have been excavated to a mere shell prior to the "cave-in." Some of the old Roman levels, which penetrate deep into the mountains, have been constructed on such a scale of magnificence that it is asserted that there is room for a carriage and pair to drive along them.

Near Voros Patak, the name of the town which is most contiguous to the two Csetaties, is situated the Csetatie Mike, or little fortress so called, from its presenting the appearance of a ruined fortress, or what would be more appropriate, that of a honey-comb, as it is pierced through and through in every conceivable direction. These quotations ought to have the effect of lessening the enormously exaggerated notions which so generally pervade the minds of Californians, and the residents of the contiguous districts, as to the uniqueness of its mineral wealth, whether we view the subject either as to its geological position or immensity of development.

Virginia City and Gold Hill, so far as appearances have yet presented themselves, must sink their pretensions when compared with what has been effected, and probably still can be repeated, in Transylvania. A similar remark might be made so far as the extensive workings which existed in ancient times of the Ogov gold mine in Carmarthenshire, South Wales, the wreck and debris from which covers a valley containing a surface of forty square miles, the entire area being covered with broken quartz to the depth of several feet.

BOHEMIA.

As with the case of Hungary, my earlier impressions were that in this country gold was probably found in Silurian, or at least in paleozoic rocks. In, however, collecting materials for the concluding chapter of this series, I became reminded that the celebrated rich mine of Joachimsthal cuts through basalt containing olivine, which overlies tertiary lignite, in which have been found leaves of dicotyledonous trees; thus establishing its formation as late as at least as the tertiary era.

In closing a brief epitome of the gold districts of Europe, and especially the countries noticed in this paper, the reader's attention is called to the fact that, as in California, the auriferous portions thereof are intimately associated with the upheaval of mountain masses, such as the Alps, Apennines, Carpathians, Pyrennees, and their sub-branches, at some post-cretaceous period; and that the matrix of all the alluvial gold in the countries named will, most probably, on more careful examination, be found to exist on rocks from the Liassic or Jurassic, to those of tertiary age—the association of gold bearing rocks with secondary and tertiary carbonaceous deposits, and boracic acid, in several instances, has already been noticed. I am desirous, however, of again calling attention to the fact that cinnabar and native mercury have been found in Europe, as in California, amongst the same rocks and under circumstances not greatly dissimilar, a fact well worthy of deep consideration, as it must be the effect of some common and widely pervading influence.

Good manners are a part of good morals, and it is as much your duty as your interest to practice it.

[Written for the Mining and Scientific Press.]

From Nevada County.

BY OUR TRAVELING CORRESPONDENT.

[Continued from Page 386 Vol. XII.]

MESSRS. EDITORS: You heard from me last from Colfax. Want of time is my only apology for not writing sooner. Much that was attractive to the "prospector," as well as wonderful to the student of nature, was presented to view in the immense gravel deposits at Gold Run and Dutch Flat, in Placer county, and more especially in what is known as the "blue lead," which makes its appearance at Indiana Hill, below the former place, and is found underneath similar deposits at Little York, You Bet, Hunt's Hill, and other portions of Nevada county. No less interesting was the net-work of mineral veins—as remarkable in number as in the richness of their ores—which were to be seen upon every hillside, and in every cañon in the vicinity of Nevada and Grass Valley. But as these have been so frequently described in the local papers, and also in the columns of the PRESS, a further notice at this time is unnecessary.

The past week has been spent chiefly in visiting some of the quartz lodes, and a large area of gravel deposits, similar in depth, width, value, and perhaps in most respects to those referred to above, lying principally between the south and middle Yubas, and extending from Badger Hill, near North San Juan, as far east as Moore's Flat, a distance of about fifteen miles; embracing a section deservedly meriting public attention, not only from the amount of gold which it now yields, or has produced in past years, but also in view of the vast treasures still garnered here, but requiring a silver key in many instances to unlock the granite vaults in which they are too safely stored.

SPECULATIONS.

Resting for a day at Columbia Hill, early morning found me again at my old trade, in search for more quartz lodes, piloted by two intelligent gentlemen of the place, who, by the way, dragged me a little out of my sphere, and into water somewhat deeper than I had been accustomed to, as any one might judge from the sequel.

Question. How were these wsh gravel deposits formed? *Ans.* Evidently by the action of water.

Ques. By the washing of river or ocean channels? *Ans.* In some instances, wholly by former rivers; in some, wholly by the ocean, and in a large proportion of cases, by the action of both causes, operating at different periods.

Ques. Why may not all have been formed by channels of rivers? *Ans.* 1st, The effects are too great to have been produced by such a cause. 2d, The deposit in many instances is totally different in character from that made by our ordinary rivers, being finer, and made up principally of small quartz pebbles, sand, clay, and less of vegetable matter, indicating a greater amount of wear and tear than in the former, which contains large granite and slate boulders, and richer deposits of gold, but unequally distributed, similar in every respect to those now found in any of our mountain streams, while in the latter the gold is of a different quality, generally more evenly distributed and in less quantity, not being made profitable to work except by hydraulic power.

Ques. Why is it necessary to assume the hypothesis, that some of these deposits were placed here by the operation of both causes? *Ans.* Because these two deposits, so different in almost every particular, are often found together, and the one superimposed and always in the same order; as in the case of the "blue lead," which appears to be a river deposit, having a wholly different character of gravel overlying, and to all appearance organic in formation; the old river channel having been submerged, and the upper strata having been deposited by the same powerful action of the ocean's waves; the color and other marks of the former giving indications of a submergence.

Fortunately for me, the catechetical exercise was abruptly brought to a close by our arrival somewhat unexpectedly at our place of destination. We stood on a ridge 1,200 feet or

more above the ebanel of the middle Yuba, in a spur about as romantic as any to be found in a region celebrated as it is for beauty and variety, not to say grandeur, in the way of scenery.

At this point, three miles north of Columbia Hill, is situated the claim of

THE MINERAL POINT COMPANY.

It consists of 1,200 feet on what is known as the Syp ledge, and is owned by Messrs. Patton, Schmidt and others of Columbin Hill and vicinity. The claim has been laid bare at several points by cuts, and more fully opened by a tunnel which the company are now vigorously driving, having commenced the same on the north side of the above mentioned ridge, some 300 feet below its brow, and are following the lode into the hill. Although granite is found close at hand, the walls are a species of bard slate, showing a thickness of lode from three to five feet. The quartz is of a bluish cast, prospects exceedingly well in fine gold, while but little can be seen without the aid of a glass, indicating a general diffusion throughout the rock. Sulphurets, both of lead and iron, such as are to be seen in the mines of Grass Valley, appear here in considerable quantities.

The company have several tons of their rock ready for crushing, but have not yet had any test made by mill process. An assay of some of the quartz, taken from near the surface, was made sometime since by Mr. J. J. Ott of Nevada City, which resulted in a return of \$56 per ton.

Many other locations have been made on this ridge and opened to some extent; of these, the Comet and the Hubbard have a joint tunnel some 460 feet in length, which is expected soon to cut their lodes at a depth of about 300 feet from the surface.

The only other claim requiring a more extended notice, is that of

THE EUREKA COMPANY.

Owned chiefly by Hawley & Bros. of Columbia Hill, and consisting of 1,600 feet. The lode varies from three to fourteen feet in width, with a direction from north to south, and a dip to the east—the usual dip and direction of all the veins of the neighborhood—and contains in certain portions of the mine very rich bodies of ore. The gold bearing sulphuret is also seen here in considerable quantities. Some tests made by the mortar of picked rock have given results truly wonderful; but as this method was not deemed a proper criterion for estimating its value, the figures are withheld. Five tons taken promiscuously from the tunnel, yielded at Stiles' mill, Nevada City, \$53 per ton.

In consequence of this test, and the promising character of the lode, which has been laid open by two tunnels, the upper being 100 feet in length, and the lower 150. The company have erected a 5-stamp mill, with arrangements for five stamps more, should they be required, (as doubtless they soon will be,) and have put up one of Crall's waltzing pans—all now in running order and propelled by the common "hurdy gurdy," similar to those seen at the cement mills in the vicinity of You Bet. The novelty, as well as the effectiveness of the pan, consists in the revolution of each grinder on its own axis, while it has a general motion in company with its little sisters around a common center, similar in every respect to the diurnal and annual movement of the planets. "On with the dance!" Who cares for the "dust?" The more, the better.

THE GRAVEL DEPOSITS.

Covering the extensive area already alluded to, speaking generally, are rarely surpassed or even equalled by any hitherto visited in point of vastness, variety or value; in depth, varying from 25 to 400 feet, while the width in many instances may be measured by thousands of feet. The coarse gravel of different colors, including the blue, is found in numerous cases near the bed rock, running in thickness from a few inches to many feet, sometimes cemented, and in all particulars resembling an ordinary river deposit, even as respects its barren spots, rich bars or richer crevices; while above this come layers of quartz gravel, sand, pipe clay and red loam, and sometimes the whole overtopped by what is unmistakably a volcanic deposit, with but little appearance of having been subjected to the action of water for any considerable length of time. In this particular, as in all other characteristics, it is wholly different from all the underlying strata. No gold is found in this deposit. The middle strata always pays well for hydraulic washing, wherever there is a sufficient fall and a good outlet for the tailings; while the first or lower, is often exceedingly remunerative, and pays well for drilling.

The yield from each claim, depends so much on its situation, facilities and mode of working, fall, outlet and such a variety of causes, aside from its mineral value, that while under some conditions no return can be had before the obstacles are removed by a considerable outlay of capital; under other circumstances, \$10, \$20, and in rare instances, \$100 per day to the hand have been realized.

Where the conditions are anything like favorable on Mt. Badger Hill, Relief Hill, Moore's Flat and other points, \$10 per day may be considered a low average, even of hydraulic washing at Columbia Hill, where they are embarrassed for the want of a sufficient outlet for their tailings, the claims have paid in the gross, as I was informed, principally by the owners, from \$2,000 to \$12,000 per month, and have netted from \$5 to \$15 per day to the man; and in certain instances have run as high as \$40 per day. Some better idea of their true worth may be formed from the amount paid monthly by some of the leading claims for water alone. Claim of Mr. Wm. Weighel about \$3,500; Woods & Co. \$1,100; Nixon & Co. \$3,000; Nichols & Co. \$3,000. The claims of Nuttall & Co. and Trude & Co., are paying similar amounts.

When it is remembered that these companies are but skinning off the upper and poorer strata, and leaving the temptingly rich stores nearer the bed rock for future operations, requiring much larger outlays of capital, the result is truly astonishing. These immense gold deposits, many miles square, and in places not less than 350 feet deep—said to be capable of affording profitable employment for seventy-five companies—lying, as they evidently do, at the junction of two distinct channels; the one coming in from the direction of Moore's Flat, the other from Grizzly Hill, where the blue gravel makes its appearance, cannot be searched and advantageously worked except by means of large tunnels, hundreds if not thousands of feet in length, to be cut through the hardest class of slate or granite, from the banks of the South Yuba, and that too at great cost; which, however, must consequently afford a large field for the investment of capital, with the almost certain promise of both speedy and profitable returns. The same may be said, with a little qualification, perhaps, of Cherokee, three miles west, and Lake City, North Bloomfield and other points to the east, the details concerning which must be omitted, as this letter has already grown quite too long. At Woolsey's Flat, near the most northeastern point of the section described, Messrs. Mills, Reid, Shultz, Wells and others, are said to be doing well, while at Moore's, the locality from which I now write, there are several claims considered very valuable; one at least, belonging to Mr. J. M. Hickey, paying as high as \$40,000 in a single season; and being in most respects similar to those of Columbia Hill and North Bloomfield, but laboring under less impediments as regards an outlet, and generally possessing greater present facilities for advantageous working. Interesting statistics concerning these places, I should have been pleased to record, but for the same reason already assigned must forgo, being limited to one general statement which in itself speaks volumes for their past prosperity, inspiring hope and confidence for the future. Mr. W. D. Loog, a large and successful operator in the mines here, assured me that the gold yield, the greater portion of which had passed through the Baking House of Marks & Co., had averaged, during the past ten years, in the neighborhood of \$1,000,000 per annum.

As Orleans Flat, one of the chief sources of supply, has been in a measure worked out, the amount has now fallen a little short, but will probably reach, the ensuing season, some \$600,000 or more.

Hoping that this place may continue for long years to pour forth its glittering streams into the great arteries of trade, after first gladdening the hearts of many here, and that the prospects of my friend Moore, of the Moore's Flat Hotel, who, in the double capacity of both landlord and lawyer, seems to handle a brief or bill of fare with equal grace, and to give full satisfaction alike to guest or client, may continue to grow more and more flattering, I subscribe myself, as ever, a

PROSPECTOR.

Moore's Flat, August 1st, 1866.

If our readers will consult their maps of South America, and trace up the course of the gigantic river Amazon, they will find one of its principal, perhaps its most important affluent, to be the river Ucayali, which rises among the Andes of Peru. It is a long and, in its lower part, a broad and wide stream. Its banks are occupied here and there by Indians, some of whom are partially civilized, and who do a little to the way of commerce. This is carried on with the towns lower down the river, or on the Amazon proper, through means, not of boats or steamers, but rafts of light wood, on which are placed bales of *cinchona* bark, from which the medicine known as *quinine* is made, bales of deer skins, sacks of maize, etc. The Indians are fond of pets, such as monkeys, parrots, etc., and almost invariably have a collection of them on their rafts—each one of which, with its wild owner and his scarcely less wild companions, is a real curiosity—a traveling menagerie.

If you have but ordinary capacity, and will set to work with heart and soul, and stick to it, you can do almost anything.

Scientific Miscellany.

ALCOHOL AND ITS PROPERTIES.

There are various kinds of alcohol. Common vinic alcohol is produced by the fermentation of any saccharine matter, and constitutes the intoxicating principle of all "spirituous liquors." The proportion of alcohol in brandy is about 53 per cent.; in rum, 72; in whisky, 59; in port or sherry wine, about 21; in ale, 10 to 11; in cider, 6 to 7.

It is very difficult to obtain a perfectly pure alcohol, on account of the strong affinity which it has for water. It cannot be obtained by distillation, except in the presence of some substance which has a stronger affinity for water than it has itself. The proof spirits of commerce contains but 48 per cent. of absolute alcohol; rectified spirits, 83 per cent.

Pure alcohol is very mobile; hence it is used in spirit levels. It never freezes, even in the most intense cold; hence it is used in thermometers for low temperatures. It is very inflammable. Powder, when wet with under-proof spirits, will not explode, on account of the water present with the alcohol; when wet with pure alcohol it explodes readily, showing the absence of water and the proof of the alcohol. Pure alcohol is exceedingly volatile, and if poured into a jar of oxygen gas, forms a powerfully explosive vapor. It is burning and dry to the taste, owing to its power of rapidly abstracting moisture from the tongue, or any other animal tissue. It does not conduct electricity.

A singular mode of concentrating alcohol is sometimes employed, founded upon the above-mentioned fact that it will not moisten animal tissue. If a bladder, filled with 90 per cent. alcohol, be hung up for a few days in a worm room, it will be found to have increased its percentage from 90 to 97. The water has permeated the bladder and evaporated from the outside; but as the alcohol will not moisten the tissue of the bladder, it cannot get through, and consequently remains behind freed from 7 of the 10 per cent. of water which it contained. When the alcohol of commerce is exposed to the air, it gradually absorbs oxygen, and acetic and other acids are formed. Under the influence of these acids it loses an atom of water, and compounds are formed called *ethers*. Upon this principle ethers are manufactured, varying according to the acid employed. The uses of alcohol in chemistry and pharmacy, are numerous and important. Its manufacture is one of the most important arts, and forms the basis of a great number of the other manufactures. Alcohol consists of carbon, hydrogen and oxygen. Its formula is $C^4 H^6 O^2$.

THE IRISCOPE is the name given to a new instrument which has recently been invented, and by the aid of which an individual is able to see all that is going on in his own eye. It is simply an opaque shell to cover the eye, pierced to the centre with a very small hole. On looking through steadfastly at the sky, or at any diffused light, the observer may watch the tears streaming over the globe of the eye, and note the dilation and contraction of the iris, and even see the aqueous humor poured in when the eye is fatigued by a long observation. It is needless to say that with the aid of this instrument a man can easily find out whether he has a cataract or not. If he has, he will only see a sort of veil covering the luminous disk which is seen by a healthy eye. The instrument is certainly simple and curious, and will no doubt excite attention in those who are anxious to know more of themselves. An "iridoscope" that will give a very good idea of what a more perfect instrument can accomplish, may be readily extemporized by making a hole with a fine needle in the bottom of a small pill-box.

GLASS.—By carefully attacking glass with hydrofluoric acid microscopic crystals are developed, which proves that we are not yet acquainted with the true composition of this substance. The crystals vary with different glasses.

CURIOUS EFFECTS ON THE VISION.—"Santolina" is the botanical name of a flowering plant found in the south of Europe, an extract of the flowers of which is sometimes used as a vermifuge to drive away insects from wardrobes. The flower itself, when dried, is sometimes sold as a substitute for *camomile*. The juice of the plant has sometimes been applied as a remedy for weak eyes. Quite recently it has been ascertained that the acid, known as santonic acid, on extract from the flowers of this plant, produces a most singular effect upon the organs of vision, when taken inwardly. A Paris physician has discovered that when a dose of eight or ten centigrammes has been taken, a species of intoxication is produced, during which all objects seen appear to be yellow; when a stronger dose is administered, everything assumes a violet-colored hue! This remarkable property has induced M. E. Rose, the chemist, to make some examinations into the character of this acid, by means of the solar spectrum. The results of these examinations have not yet, so far as we have learned, been fully communicated to the public; possibly they have not yet been fully completed to the satisfaction of the experimenter. Chromatism and achromatism, as applied to the vision, are not yet fully understood. It is well known that they may be modified by a variety of circumstances, and have not yet been subjected to any general law. An investigation into the singular effects above described, of this well known extract of *santolina*, may possibly lead to some important discoveries with regard to the visual organs.

WHAT WE EAT.—Chemistry makes some queer revelations. Take, for instance, the common article of table-salt, one of the few things in nature which is considered absolutely essential to our existence. Salt is a compound of one atom of the metal sodium, and one atom of a greenish yellow gas called chlorine. Sodium is the dangerously active compound with which miners have of late become so familiar, by reason of its forming a valuable amalgam with quicksilver. A small quantity of this metal, when placed on the surface of water, and kept in one position for an instant, produces a violent explosion. If you place a few grains of it in contact with two or three ounces of quicksilver, and warm the quicksilver a little, an explosion will follow as loud as the report of a pistol, producing a volume of flame like the explosion of gunpowder. It is a dangerous experiment to try. The result is a compound metal nearly as hard as black tin. This sodium, as we have already said, is one of the equivalents of salt; the other equivalent is chlorine gas, one of the most powerfully corrosive gases known. This gas dissolves gold. Now, when you have eaten fifty-eight ounces of salt (and it don't take a very long time for a person to consume that much), you have taken into your stomach twenty-three ounces of sodium, and thirty-five ounces of chlorine gas! Some people will consume nearly or quite a full ounce of salt every day—that is, a little over one-third of an ounce of sodium and a little less than two-thirds of an ounce of chlorine gas combined. An infinitesimal part of either, taken separately, would produce instantaneous death.

LINOLEUM.—A substance is now being manufactured from flaxseed called linoleum. It is said that it will supersede India rubber—which it very much resembles, and of which it possesses most of the properties—in the various manufactures of water-proof clothing. It can be used for the coating of iron or wood, or for coating ship bottoms. It is as good as common cement, having properties similar to the marine glue made from India rubber and shellac. It is readily vulcanized by exposure to heat, and by this means becomes as hard as the hardest wood, and capable of a fine polish. The variety of uses to which it can be applied in this form will at once suggest themselves to the reader. Hitherto it has been made solely to produce floor cloth, for which it is well adapted.

CARBONIC acid has been resolved by Mr. Deville into an explosive mixture of carbonic oxide and oxygen. The transformation was effected at 2,372° Fahrenheit.

NOCTURNAL GROWTH OF PLANTS.—M. Duchartre, of Paris, has recently been making some careful comparative experiments designed to show the relative growth of plants by night and by day. It has generally been taken for granted that plants grow more rapidly during the daytime, but exact measurements have not often been made, and the results of the few botanists who have given attention to this point are contradictory and unconvincing. M. Duchartre made continuous observations during the month of August of last year, upon six plants, belonging to different families, and growing in the same soil under normal conditions, but without any special care. The plants were a grape-vine, a hollyhock, a strawberry-vine, a hop-vine, and two varieties of gladioli. The elongation of each plant was measured three times a day—at six A. M., at noon, and six P. M. At each time of observation the general atmospheric conditions and the state of the thermometer were noted. The result of the observations thus made was, with very few exceptions, the growth between six P. M. and six A. M., was much greater than between six A. M. and six P. M. In many instances the elongation of the shoots during the night was double or triple that during the day. M. Duchartre offers at present no explanation of these phenomena, and does not venture to affirm that what was true of his six plants is true of all plants, at all seasons and in all stages of vegetation. He calls attention to facts which must be multiplied before any general conclusions can be based upon them, and he urges all persons, in connection to prosecute such researches, to accumulate observations for the elucidation of the law of diurnal and nocturnal growth.

BLACK RAIN.—The *Aberdeen* (Scotland) *Journal* gives the following account of the black rain showers which are now so well known in Scotland, and which scarcely occasion greater astonishment in the regions where they occur than would a snow storm in New England:

Between the beginning of January, 1862, and the middle of January, 1866, there have been no fewer than eight authenticated black showers in Scotland. Seven of these fell in Slais, and the extensive surrounding district. Two of them were accompanied with pumice stones, some of the balls measured eight to ten inches in diameter, and weighed upwards of a pound avoirdupois. The first four, including the Carluke shower, and the eighth, were contemporaneous with outbursts of Vesuvius, and the intermediate three with those of Etna. But now, through the instrumentality of the Rev. Mr. Rust, of Slais, who was the first to draw general attention to the Scottish showers, it has been discovered that England gets her share, likewise, of black showers, although she did not think that she was so distinguished. On the 3d of May, of the present year (1866), the town of Birmingham, and the surrounding country, were twice, for three-quarters of an hour, each time, enveloped with black clouds producing darkness and rain. Accidents took place in the streets; vehicles were upset, gas bad to be lighted at some of the crossings, and nearly in all places of business. Mr. Rust, writing for information, got inquiries instituted, and the result is found to be that a large quantity of black rain, similar to the Scottish, fell, and blackened rain water in tanks, and clothes on greens, not only in Birmingham itself, but at rural places many miles distant, unaffected by soot and smoke, and even windward of the town. So far as known, however, no word has yet arrived of any volcanic outburst, although, judging from what has taken place in Scotland, a probability exists that some volcano has been in a state of activity, emitting its contents, whether it be heard of or not.

STENOGRAPHY ADAPTED TO HEBREW.—Successful attempts have been made in Germany to apply Arend's system of stenography to Hebrew. Verbatim reports of speeches delivered in that ancient language have already been made at Luxembourg.

SOMETHING NEW IN PHOTOGRAPHY.—It has been discovered that simple pressure of raised surface upon a sensitized photographic plate will produce an image. The whole is performed in the dark, and mechanical means thus made to produce the same effects as light.

THE BOTANISTS OF EUROPE, taking advantage of the International Horticultural Exhibition in London, have come together in a Botanical Congress, which is presided over by the famous Caudex.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Friday, August 10.

AFTERNOON SESSION.

6 sbs Yellow Jacket at 722½ per foot, b 30.
 5 sbs Yellow Jacket at 735 per foot, b 30.
 5 sbs Yellow Jacket at 715 per foot, s 30.
 1 sh Yellow Jacket at 720 per foot, s 3.
 1 sh Belcher at 150 per foot, b 5.
 2 sbs Belcher at 149 per foot, s 3.
 40 sbs Daney at 5½ per foot.
 36 sbs Ophir at 271 per foot.
 36 sbs Ophir at 271½ per foot, b 30.
 7 sbs Savage at 1200 per foot.
 5 sbs Chollar-Potosi at 180 per foot, b 3.
 10 sbs Sierra Nevada at 3¼ per share.
 30 sbs Bullion at 27½ per share, s 30.
 5 sbs Bullion at 26 per share, s 3.
 20 sbs Bullion at 26½ per share.
 5 sbs Bullion at 26 per share, b 30.
 3 sbs Cal. Steam Nav. Co. at 80 per ct, b 5.
 Amount of sales.....\$ 23,779 00

Saturday, August 11.

2 sbs Yellow Jacket at 715 per foot.
 1 sh Yellow Jacket at 715 per foot, s 3.
 1 sh Yellow Jacket at 725 per foot.
 1 sh Yellow Jacket at 730 per foot.
 1 sh Yellow Jacket at 740 per foot.
 2 sh Yellow Jacket at 760 per foot, b 30.
 6 sbs Yellow Jacket at 745 per foot, s 30.
 3 sbs Yellow Jacket at 748 per foot.
 1 sh Yellow Jacket at 747 per foot.
 3 sbs Yellow Jacket at 747½ per foot.
 8 sbs Yellow Jacket at 745 per foot.
 1 sh Yellow Jacket at 747 per foot, b 3.
 1 sh Savage at 1200 per foot, s 30.
 3 sbs Savage at 1200 per foot.
 1 sh Savage at 1180 per foot, b 5.
 18 sbs Chollar-Potosi at 180 per foot.
 40 sbs Daney at 5 per foot.
 8 sbs Crown Point at 900 per foot, s 30.
 8 sbs Crown Point at 925 per foot, b 30.
 12 sbs Crown Point at 890 per foot, s 30.
 13 sbs Ophir at 265 per foot.
 30 sbs Overman at 33½ per share, s 3.
 5 sbs Overman at 40 per share, b 30.
 15 sbs Overman at 39 per share, s 3.
 15 sbs Overman at 39½ per share, b 5.
 5 sbs Overman at 40½ per share, b 10.
 15 sbs Overman at 41 per share, b 30.
 15 sbs Overman at 39½ per share, s 3.
 10 sbs Overman at 40½ per share, b 30.
 10 sbs Bullion at 25 per share.
 30 sbs Bullion at 23 per share, s 3.
 0 sbs Bullion at 23 per share.
 10 sbs Bullion at 24 per share, b 30.
 40 sbs Bullion at 22 per share, s 30.
 20 sbs Bullion at 23½ per share, b 30.
 5 sbs Bullion at 22 per share, s 3.
 20 sbs Bullion at 23½ per share, b 20.
 15 sbs Bullion at 21 per share.
 5 sbs Imperial at 97 per share.
 5 sbs Imperial at 97 per share, s 3.
 10 sbs Sierra Nevada at 3 per share, s 3.
 5 sbs Cal. Steam Nav. Co. at 80 per cent.
 Amount of sales.....\$ 44,798 50

Monday, August 13.

60 sbs Ophir at 255 per foot, b 30.
 12 sbs Ophir at 250 per foot, b 3.
 12 sbs Ophir at 240 per foot, s 3.
 49 sbs Ophir at 247½ per foot, s 30.
 36 sbs Ophir at 247½ per foot, s 3.
 12 sbs Ophir at 249 per foot.
 43 sbs Ophir at 250 per foot.
 103 sbs Ophir at 260 per foot.
 12 sbs Ophir at 249 per foot, s 30.
 60 sbs Ophir at 257½ per foot, b 30.
 2 sbs Yellow Jacket at 755 per foot.
 1 sh Yellow Jacket at 730 per foot, s 30.
 1 sh Yellow Jacket at 734½ per foot, s 3.
 1 sh Yellow Jacket at 745 per foot, b 30.
 1 sh Yellow Jacket at 730 per foot, s 3.
 2 sbs Yellow Jacket at 727½ per foot, b 3.
 3 sbs Yellow Jacket at 727½ per foot.
 1 sh Savage at 1125 per foot.
 1 sh Chollar-Potosi at 180 per foot.
 4 sbs Crown Point at 915 per foot, b 30.
 4 sbs Crown Point at 901 per foot.
 1 sh Belcher at 142½ per foot.
 1 sh Belcher at 140 per foot.
 5 sbs Belcher at 150 per foot, b 30.
 7 sbs Belcher at 145 per foot.
 5 sbs Confidence at 51 per share, b 30.
 5 sbs Confidence at 52 per foot, b 30.
 10 sbs Confidence at 52 per foot, b 3.
 1 sh Empire M. & M. Co. at 120 per share, b 30.
 2 sbs Empire M. & M. Co. at 117 per share, b 30.
 30 sbs Bullion at 33 per share, b 30.
 5 sbs Sierra Nevada at 3¼ per share.
 60 sbs Sierra Nevada at 3¼ per share.
 5 sbs Overman at 33 per share.
 15 sbs Overman at 33½ per foot.
 5 sbs Overman at 37½ per share.
 5 sbs Overman at 38 per share, b 10.
 1 sh Cal. Steam Nav. Co. at 80 per cent.
 1 sh Cal. Steam Nav. Co. at 80 per ct, b 5.

AFTERNOON SESSION.

2 sbs Yellow Jacket at 730 per foot.
 1 sh Yellow Jacket at 715 per foot.
 1 sh Yellow Jacket at 705 per foot, s 30.
 1 sh Yellow Jacket at 715 per foot, b 30.
 1 sh Yellow Jacket at 725 per foot, b 30.
 12 sbs Ophir at 245 per foot, s 30.
 12 sbs Ophir at 245 per foot.
 12 sbs Ophir at 243 per foot.
 12 sbs Ophir at 240 per foot, s 30.
 12 sbs Ophir at 240 per foot.
 5 sbs Chollar-Potosi at 177 per foot.
 1 sh Chollar-Potosi at 186 per foot, b 30.
 2 sbs Chollar-Potosi at 180 per foot, b 30.
 4 sbs Chollar-Potosi at 185 per foot, b 30.
 10 sbs Confidence at 62½ per share, b 30.
 5 sbs Confidence at 53 per share, b 30.
 25 sbs Sierra Nevada at 3¼ per share, s 10.
 60 sbs Sierra Nevada at 3¼ per share, s 3.
 30 sbs Overman at 37 per share, s 10.
 2 sbs Overman at 33 per share.
 Amount of sales.....\$ 36,167 00

Tuesday, August 14.

40 sbs Daney at 4 per foot.
 12 sbs Ophir at 240 per foot, b 3.
 24 sbs Ophir at 238½ per foot, s 3.
 2 sbs Yellow Jacket at 700 per foot, s 10.

SAN FRANCISCO, SATURDAY MORNING, August 18th, 1866.

There is no decided change to note in the condition of the Money Market, although the applications for discount in Bank this week are thought to be rather less numerous than for some time past, and greater ease may now be anticipated.

The outflow of specie has been materially checked, and the demand for remittance East is not likely to be as large in the future as it has been for the last two months.

Receipts of Treasure from domestic sources, since the date of our last report, have been rather larger than usual, and exceeded \$1,600,000, making an aggregate of \$3,000,000 thus far during the current month.

The market continues to be well supplied with Bullion and the demand not active for shipping purposes. Gold bars are quotable at about 840, and silver is ranging at ½@¾ cent. discount for average grades.

Currency Bills on the Atlantic are offered at 44 ½ cent. premium on gold. Sight Drafts payable in coin are selling at 2¼ cent. premium, and Telegraphic Transfers are made at 4 ½ cent. premium. Sterling Exchange is quoted at 48¼@48½d. for best Bankers' bills.

Legal Tender Notes are dull and inactive, and trifling sales were made at 71½@70½c., closing at 70½c. bid. Our latest telegraphic advices from New York, to the 16th inst., quote Gold at 151½@151¾.

The following suggestions from the last annual report of the President of the Savage Company commend themselves to the consideration of those interested:

"All mining enterprises on our coast have so many interests in common, that it seems to me there should be cultivated a mutual and better understanding between those engaged in the various branches of mining, and particularly with those companies engaged in the production of the same metal. Organizations have always existed by those engaged in like occupation, for the purpose of information, advancement, and protection. Mining officers have committed to their care and management a vast amount of very valuable property; therefore, to give proper direction and obtain the advantages of experience, it would be well that they form themselves into an association, for the purpose of exchanging the knowledge and experience acquired in the modes of working mines; the manner of treating ores; systematize the price and management of labor; to adjust questions that may arise between companies, and devise proper means of defense against blackmailing attacks and malicious trespasses. Much good and certainly great improvement might grow out of such an organization."

The Mining Share Market has been somewhat depressed this week, and with scarce an exception every stock on the list was sold at a decline. There seems to be no material abatement in the yield of Bullion from prominent claims, and so far as we can learn there have been recently no unfavorable developments worthy of special mention.

Hale & Norcross has met with no sales this week. This stock is now rarely offered, being in the hands of strong holders who are indisposed to sell except at full rates. From the 1st to 12th inst., 1170 tons of ore were delivered at different mills, and 65 ½ cent. of the assay value of which has averaged about \$50 per ton. A dividend of \$75 per foot was paid on the 15th inst.

Savage has been dealt in at fluctuating rates, declining from \$1200 to

3 sbs Yellow Jacket at 707½ per foot, b 30.
 1 sh Yellow Jacket at 700 per foot, c.
 1 sh Yellow Jacket at 701 per foot, b 30.
 2 sbs Yellow Jacket at 690 per foot, c.
 2 sbs Savage at 1125 per foot.
 1 sh Belcher at 142 per foot.
 3 sbs Belcher at 141 per foot.
 1 sh Belcher at 145 per foot, b 10.
 4 sbs Belcher at 140 per foot, s 10.
 3 sbs Belcher at 141 per foot.
 6 sbs Belcher at 145 per foot, b 30.
 3 sbs Gould & Curry at 870 per foot.
 2 sbs Chollar-Potosi at 178½ per foot.
 4 sbs Empire M. & M. Co. at 120 per share, b 3.
 2 sbs Empire M. & M. Co. at 119 per share.
 1 sh Empire M. & M. Co. at 120 per share, b 10.
 1 sh Empire M. & M. Co. at 118 per share, s 10.
 14 sbs Empire M. & M. Co. at 110½@112½, s 30.
 2 sbs Imperial at 97 per share.
 25 sbs Sierra Nevada at 3¼ per share.
 1 sh Bullion at 31½ per share, s 30.
 20 sbs Bullion at 33 per share, s 30.
 5 sbs Bullion at 35 per share, b 30.
 10 sbs Bullion at 31½ per share.
 5 sbs Confidence at 50 per share.
 10 sbs Overman at 37 per share.
 10 sbs Overman at 36 per share, s 3.
 5 sbs Overman at 36½ per share, s 10.
 23 sbs Overman at 35½ per share.
 5 sbs Overman at 35 per share, s 30.
 20 sbs Overman at 35½ per share, s 10.
 5 sbs Overman at 36 per share, b 5.
 \$3,000 Legal Tender Notes at 71½c.
 1 sh Cal. Steam Nav. Co. at 80 per cent, s 10.

Amount of sales.....\$ 37,760 25

Wednesday, August 15.

8 sbs Chollar-Potosi at 174 per foot.
 4 sbs Alpha, G. H., at 90 per foot.
 1 sh Savage at 1195 per foot, s 3.
 1 sh Savage at 1230 per foot, b 30.
 1 sh Savage at 1192½ per foot, b 30.
 1 sh Savage at 1210 per foot, s 30.
 1 sh Savage at 1200 per foot.
 1 sh Belcher at 130 per foot.
 1 sh Belcher at 130 per foot, s 10.
 1 sh Belcher at 127½ per foot.
 1 sh Belcher at 126 per foot.
 1 sh Belcher at 125 per foot.
 72 sbs Ophir at 236 per foot, s 10.
 12 sbs Ophir at 237 per foot.
 12 sbs Ophir at 237½ per foot.
 12 sbs Ophir at 236 per foot, s 20.
 12 sbs Ophir at 238 per foot.
 4 sbs Crown Point at 890 per foot, s 3.
 2 sbs Yellow Jacket at 670 per foot, b 30.
 30 sbs Bullion at 33½ per share.
 20 sbs Bullion at 33 per share, s 3.
 5 sbs Overman at 31 per share, s 3.
 15 sbs Overman at 30 per share, b 3.
 10 sbs Overman at 31 per share, b 30.
 6 sbs Overman at 33 per share, s 30.
 10 sbs Overman at 29 per share.
 10 sbs Overman at 30 per share.
 25 sbs Overman at 29½ per share.
 5 sbs Overman at 29 per foot, s 10.
 5 sbs Overman at 29 per share, s 3.
 15 sbs Overman at 29 per share, c.
 10 sbs Sierra Nevada at 3¼ per share.
 \$16,000 Legal Tender Notes at 71½c.
 \$25,000 Legal Tender Notes at 71½c.

Amount of sales.....\$ 65,117 25

Thursday, August 16.

8 sbs Chollar-Potosi at 173 per foot.
 4 sbs Alpha, G. H., at 90 per foot, s 3.
 1 sh Savage at 1195 per foot, s 3.
 1 sh Savage at 1230 per foot, b 30.
 1 sh Savage at 1192½ per foot, b 30.
 1 sh Savage at 1210 per foot, s 30.
 1 sh Savage at 1200 per foot.
 1 sh Belcher at 130 per foot.
 1 sh Belcher at 130 per foot, s 10.
 1 sh Belcher at 127½ per foot.
 1 sh Belcher at 126 per foot.
 1 sh Belcher at 125 per foot.
 72 sbs Ophir at 236 per foot, s 10.
 12 sbs Ophir at 237 per foot.
 12 sbs Ophir at 237½ per foot.
 12 sbs Ophir at 236 per foot, s 20.
 12 sbs Ophir at 238 per foot.
 4 sbs Crown Point at 890 per foot, s 3.
 2 sbs Yellow Jacket at 670 per foot, b 30.
 30 sbs Bullion at 33½ per share.
 20 sbs Bullion at 33 per share, s 3.
 5 sbs Overman at 31 per share, s 3.
 15 sbs Overman at 30 per share, b 3.
 10 sbs Overman at 31 per share, b 30.
 6 sbs Overman at 33 per share, s 30.
 10 sbs Overman at 29 per share.
 10 sbs Overman at 30 per share.
 25 sbs Overman at 29½ per share.
 5 sbs Overman at 29 per foot, s 10.
 5 sbs Overman at 29 per share, s 3.
 15 sbs Overman at 29 per share, c.
 10 sbs Sierra Nevada at 3¼ per share.
 \$16,000 Legal Tender Notes at 71½c.
 \$25,000 Legal Tender Notes at 71½c.

Amount of sales.....\$ 65,117 25

Friday, August 17.

4 sbs Savage at 1140 per foot, s 30.
 1 sh Savage at 1150 per foot.
 4 sbs Savage at 1170 per foot, s 30.
 6 sbs Yellow Jacket at 630 per foot.
 9 sbs Yellow Jacket at 630 per foot, b 30.
 4 sbs Ophir at 217½ per foot.
 7 sbs Chollar-Potosi at 175½ per foot.
 14 sbs Overman at 27½ per share.
 20 sbs Bullion at 31½ per share.
 1 sh Belcher at 148 per foot.
 30 sbs Sierra Nevada at 3 per share.
 10 sbs Lady Bryan at 62½ per share.
 20 sbs Union Insurance at 12½ per cent.
 31 sbs Union Insurance Co. at 124½ per ct.
 30 sbs National Ins. Co. at 71½ per cent.
 1 sh Cal. Steam Nav. Co. at 80 per ct, b 3.
 2 sbs Cal. Steam Nav. Co. at 80 per ct, b 3.

Amount of sales.....\$ 67,679 75

AFTERNOON SESSION.

13 sbs Ophir at 237½ per foot.
 12 sbs Ophir at 235 per foot, s 10.
 4 sbs Ophir at 235 per foot, b 30.
 43 sbs Ophir at 230½ per foot, b 30.
 76 sbs Ophir at 235½ per foot.
 4 sbs Ophir at 235 per foot, b 30.
 24 sbs Ophir at 232½ per foot, b 30.
 36 sbs Ophir at 225 per foot, b 30.
 24 sbs Ophir at 235 per foot, s 10.
 12 sbs Ophir at 220 per foot.
 4 sbs Ophir at 245 per foot, b 10.
 12 sbs Ophir at 220 per foot, b 10.
 12 sbs Ophir at 220 per share, b 30.
 13 sbs Gould & Curry at 700 per foot.
 2 sbs Yellow Jacket at 650 per foot, b 30.
 3 sbs Yellow Jacket at 650 per foot, b 30.
 1 sh Savage at 1190 per foot, s 3.
 1 sh Savage at 1200 per foot, b 30.
 5 sbs Overman at 29½ per share, s 10.
 5 sbs Overman at 29 per share, s 10.
 10 sbs Overman at 30 per share, b 3.
 5 sbs Overman at 29 per share, s 30.
 10 sbs Overman at 30 per share.
 12 sbs Lady Bryan at 50 per share.
 10 sbs Bullion at 33½ per share.
 \$6,000 Legal Tender Notes at 71½c.

Amount of sales.....\$ 65,117 25

Saturday, August 18.

8 sbs Chollar-Potosi at 173 per foot.
 4 sbs Alpha, G. H., at 90 per foot, s 3.
 1 sh Savage at 1195 per foot, s 3.
 1 sh Savage at 1230 per foot, b 30.
 1 sh Savage at 1192½ per foot, b 30.
 1 sh Savage at 1210 per foot, s 30.
 1 sh Savage at 1200 per foot.
 1 sh Belcher at 130 per foot.
 1 sh Belcher at 130 per foot, s 10.
 1 sh Belcher at 127½ per foot.
 1 sh Belcher at 126 per foot.
 1 sh Belcher at 125 per foot.
 72 sbs Ophir at 236 per foot, s 10.
 12 sbs Ophir at 237 per foot.
 12 sbs Ophir at 237½ per foot.
 12 sbs Ophir at 236 per foot, s 20.
 12 sbs Ophir at 238 per foot.
 4 sbs Crown Point at 890 per foot, s 3.
 2 sbs Yellow Jacket at 670 per foot, b 30.
 30 sbs Bullion at 33½ per share.
 20 sbs Bullion at 33 per share, s 3.
 5 sbs Overman at 31 per share, s 3.
 15 sbs Overman at 30 per share, b 3.
 10 sbs Overman at 31 per share, b 30.
 6 sbs Overman at 33 per share, s 30.
 10 sbs Overman at 29 per share.
 10 sbs Overman at 30 per share.
 25 sbs Overman at 29½ per share.
 5 sbs Overman at 29 per foot, s 10.
 5 sbs Overman at 29 per share, s 3.
 15 sbs Overman at 29 per share, c.
 10 sbs Sierra Nevada at 3¼ per share.
 \$16,000 Legal Tender Notes at 71½c.
 \$25,000 Legal Tender Notes at 71½c.

Amount of sales.....\$ 65,117 25

AFTERNOON SESSION.

2 sbs Savage at 1150 per foot, b 30.
 3 sbs Yellow Jacket at 632½ per foot, b 3.
 12 sbs Ophir at 220 per foot, b 20.
 2 sbs Imperial at 90 per share.
 5 sbs Chollar-Potosi at 173 per foot.
 3 sbs Bullion at 26½ per share.
 5 sbs Lady Bryan at 64½ per share.
 100 sbs Fireman's Fund Ins. at 113 per cent.
 \$10,000 Legal Tender Notes at 71½c, s 30.
 \$10,000 Legal Tender Notes at 70½@71½c, s 30.
 Amount of sales.....\$ 61,539 00

Amount of sales.....\$ 61,539 00

MINING SHAREHOLDERS' DIRECTORY,

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals].

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME	AMOUNT	DAY	DELINQUENT	OF SALE
AND LOCATION	ASSESSMENT			
Antioch P. Petrol. Co., Contra Costa Co., \$2.40	July 30-Aug 20			
Arizona C. & S. M. Co., \$2.40	Aug 3-Aug 27			
Auriferous M. Co., Monterey Co., \$500	Aug 1-Aug 27			
Arizona Copper Co., Arizona Terr., \$4.00	July 1-Aug 27			
Arbitration, Mexico, \$1.50	July 1-Aug 13			
Belle Ledge G. & S. M. Co., Cal., Annual Meeting Aug 27				
Becher, Baldwin, and Abernethy Co., \$15	Aug 21-Sept 21			
Belcher Co., \$45	Aug 21-Sept 21			
Bunker Hill G. & S. M. Co., El Dorado Co., \$1.40	Aug 11-Aug 25			
Cosima S. M. Co., Mex. \$1	Aug 30-Sept 17			
Corcoran G. & S. M. Co., Mex. \$1	Aug 24-Sept 17			
Corralito G. & S. M. Co., Mex. \$1	Aug 24-Sept 17			
Centrat S. M. Co., Storey Co., Nev. \$3	Aug 1-Sept 12			
Crown Point, dividend, \$30 ft.	Payable June 10			
Confidence S. M. Co., Storey Co., Nev. \$3	Aug 1-Sept 12			
Confidence S. M. Co., Storey Co., Nev. \$1	Sept 13-Oct 3			
Diana G. & S. M. Co., Nev. \$3	Oct 5-Nov 2			
Diamond T. M. Co., Del Norte Co., \$1	Sept 7-Sept 21			
Dino North Constock Co., Del Norte Co., \$1.45	Aug 21-Sept 21			
Daney T. & S. M. Co., Del Norte Co., \$1.45	Aug 21-Sept 21			
Eagle Quartz S. M. Co., Adair Co., \$1	Aug 18-Sept 8			
Echequer M. Co., Storey Co., Nev. \$3	July 31-Aug 18			
El Tote S. M. Co., Sra. Mex. \$2	Aug 10-Aug 25			
Enterprise G. & S. M. Co., Meadow Lake, \$1.25	Aug 19-Aug 31			
Geo. Washington G. & S. M. Co., Alp. Co., \$1	Sept 6-Oct 1			
Gold Hill, \$1.45	Sept 6-Oct 1			
Gold Hill Tan. G. & S. M. Co., \$1	Sept 6-Oct 1			
Great Central M. Co., Arizona Terr., \$1	Aug 3-Aug 27			
Gould & Curry, dividend \$50 ft.	Payable June 8			
Hanscom C. M. Co., Del Norte Co., \$50	Aug 31-Sept 13			
Lat & Norcross, dividend, \$50 ft.	Payable Aug 15			
L. E. & S. M. Co., Annual Meeting Sept 13				
Imperial G. & S. M. Co., dividend \$6 ft.	Payable Aug 15			
Jefferson G. & S. M. Co., Yuba Co., Div. \$10 ft.	Pay immediately			
Jeffrey Oil M. Co., Humboldt Co., \$20	Aug 20-Sept 13			
Kennedy C. M. Co., Cal. \$1	Sept 5-Sept 20			
Kennedy C. M. Co., Calaveras Co., \$1	Sept 5-Sept 20			
Lady Bell C. M. Co., Del Norte Co., \$10	Sept 4-Sept 24			
Leland, Arizona, \$50	Aug 21-Sept 21			
Leona G. & S. M. Co., Mex. \$1	Aug 21-Sept 21			
Lady Bryan, \$1	Aug 21-Sept 21			
La Victoria C. M. Co., Mariposa Co., \$1	Aug 13-Sept 4			
Morning Star O. & S. M. Co., Alpine Co., \$1	Aug 13-Sept 4			
Nuestra Sra. de Guadalupe Co., Mex. \$1	July 31-Aug 18			
North American Tan. M. Co., Mex. \$1	Aug 18-Aug 27			
Norcross G. & S. M. Co., Mex. \$1	Aug 18-Aug 27			
Old Colony S. M. Co., Nevada, \$5	Sept 7-Oct 5			
Peninsula M. Co., San Antonio, \$10	Aug 10-Aug 25			
Peninsula G. & S. M. Co., Yuba Co., \$1	Sept 12-Oct 3			
Progressive Belcher M. Co., Nev. \$3	Sept 12-Oct 3			
Shimpo M. & S. M. Co., Alpine Co., \$1	Sept 4-Sept 21			
Scott M. & S. M. Co., Humboldt Co., Nev. \$50	Aug 18-Sept 13			
Santa Cruz Pet. Oil Co., \$50	Aug 7-Aug 28			
San Martin S. M. Co., Mex. \$1	Aug 1-Sept 2			
Santiago M. Co., dividend	Payable July 7			
Sierra Nevada S. M. Co., Nev. \$4	Sept 5-Sept 25			
Sierra Valley G. & S. M. Co., Cal. \$1	Aug 1-Sept 2			
Santa Anna Petrol. Co., Los Angeles, \$1	Aug 21-Sept 2			
Tecumseh G. & S. M. Co., Cal. \$1	Sept 12-Sept 29			
Tecumseh Mountain G. & S. M. Co., \$1	July 22-Sept 11			
Triumph O. & S. M. Co., L. C., \$3	Aug 27-Sept 8			
Union G. & S. M. Co., L. C., \$1	Aug 27-Sept 8			
Union Mattole Oil Co., Humboldt Co., \$5	July 16-Aug 20			
Yellow Jacket S. M. Co., div. \$50 ft.	Payable August 15			

Those marked with an asterisk () are advertised in the Journal.

San Francisco Stock and Exchange Board.

	Bid.	Asked.
United States 7-10ths.	75 1/2	76 1/2
Gov. Legal Tender Notes.	70 1/2	70 3/4
State Bonds, 7 1/2 cent.	81	83
San Francisco 10 cent.	100	105
San Francisco Bonds, 1855, 6 cent.	70	72
San Francisco 10 cent.	110	120
San Francisco Bond in 1858, 8 1/2 cent.	99	100
Sacramento City Bonds, 6 cent.	19	21
Sacramento County Bonds, 6 cent.	69	60
Marysville Bonds, 10 cent.	75	82
Stockton Bonds, 10 cent.	60	85
Yuba County Bonds, 10 cent.	80	85
Butte County Bonds, 10 cent.	70	80
California National Bank.	31	35
State Telegraph Stock.	31	35
San Francisco Gas Co.	125	130
Sacramento Gas Co.	75	75
Spring Valley Water Co.	64	66

RAILROADS.		
Sacramento Valley Railroad.	64	60
Omnibus Railroad.	64	60
Central Railroad Co.	42	44
North Beach and Mission.	42	44

MINING STOCKS.		
Alpha.	95	100
Baltimore American.	27	28
Bullion, G. H.	110	115
Belcher.	60	62
Confidence.	210	215
Gold & Curry.	150	155
Empire M. & M. Co.	115	125
Savage.	1140	1150
Chimbar Potosi.	173	174
Hale & Norcross.	1850	1800
White & Murphy.	630	635
Yuba Nevada.	27	28
Yellow Jacket.	630	635
Overman.	27	28
Crown Point.	630	635
Antelope.	27	28
Emeralda.	27	28
Real del Monte.	27	28
Becky.	27	28
Dick Sides.	27	28
Imperial.	90	91

San Francisco Market Rates.

WHOLESALE PRICES.		
FRIDAY, AUG 17, 1888.		
Flour, extra, 3 bbl.	5 50	5 50
Do Superior.	4 50	4 50
Coru Meal, 3 100 lb.	3 50	3 50
Wheat, 3 100 lb.	1 45	1 55
Oats, 3 100 lb.	1 40	1 60
Barley, 3 100 lb.	85	1 00
Beans, 3 100 lb.	3 50	5 50
Potatoes, 3 100 lb.	50	65
Hay, 3 100 lb.	7 00	7 00
Livest. Oak Wood.	8 00	10 00
Beef, on foot, 3 lb.	6	8
Beef, extra, dressed, 3 lb.	10	12 1/2
Sheep, on foot, 3 lb.	1 00	2 00
Hogs, on foot, 3 lb.	6	8
Hogs, dressed, 3 lb.	10 1/2	13
GROCERIES, ETC.		
Sugar, crushed, 3 lb.	13	11
Do China.	10	11
Coffee, Costa Rica, 3 lb.	24	24
Do Rio.	20	20
Tea, Japan, 3 lb.	90	1 00
Do Green.	70	1 00
Hawaiian Rice, 3 lb.	9	9
China do.	8 1/2	7 1/2
Coal Oil, 3 gal.	70	75
Candles, 3 lb.	18	22

Ranch Butter, 3 lb.	32 1/2	40
Isithmas do.	30	37 1/2
Cheese, California, 3 lb.	10	17
Eggs, 3 doz.	40	44
Lard, 3 lb.	19	20
Ham and Bacon, 3 lb.	20	25
Shoulders.	12 1/2	18

Butter, California fresh 3 lb.	45 00	60
do pickled 3 lb.	38 00	40
do Oregon.	35 00	40
do New York, 3 lb.	40 00	50
Cheese, 3 lb.	15 00	20
Honey, 3 lb.	30 00	40
Eggs, 3 doz.	40 00	50
Lard, 3 lb.	22 1/2	25
Ham and Bacon, 3 lb.	22 1/2	25
Cranberries, 3 gal.	7 00	10
Potatoes, old, 3 lb.	—	—
do New.	2 1/2	3
Tomatoes, 3 lb.	6	6
Onions, 3 lb.	6	6
Apples, No. 1, 3 lb.	2 1/2	3
Pears, table 3 lb.	8	10
Plums, dried, 3 lb.	20 00	22
Peaches, dried, 3 lb.	16 00	—
Oranges, 3 lb.	60 00	—
Lemons, 3 doz.	7 00	—
Citric acid, 3 lb.	87 1/2	12
Soap-Pale & C. O.	8	10
Castile.	14 00	15

LABOR VS. CAPITAL.—The conflicts between capital and labor, which have been of such frequent occurrence during the past eighteen months, both in England and in our own country, clearly indicate the necessity of a better understanding between the employer and the employed. Our English cousins seem to be more alive to this great reality than our own countrymen; perhaps from the fact that the consequences fall heavier upon them than upon us. Especially has this been the case since the inception of the great emigrant aid scheme, by which English skilled operatives, whenever they are dissatisfied with their condition at home, can find free passages to the United States, where plenty of work and higher wages than they would presume to ask for in England, constantly awaits them. To prevent this disastrous loss of laborers, the English manufacturers have successfully introduced a system of sharing with their operatives all the profits which may accrue to the employer, after paying a liberal percentage on the capital invested. We have never heard of this plan having been adopted in the United States; but several cases have occurred here where the workmen have protected themselves; as, for instance, at a recent disagreement between the employers and employed at the Troy (N. Y.) iron mills, the workmen have banded together for the purpose of carrying on the business on their own account, so as to secure all the profit to themselves. This undertaking is eliciting no little comment from the Eastern press, and if the experiment proves successful, it will probably be repeated at other localities.

THE BRITISH NORTH AMERICAN PROVINCES. As an evidence of the want of liberality and energy with which the industrial operations of the British North American Provinces are managed, we may state that all the iron which is there employed, for railroads and for mining and other operations, after being transported 3,000 miles from England, is loaded and much of it remelted and cast at the very site where thick beds of Nova Scotia ore may be actually seen protruding from the earth; and where a vein of coal thirty-six feet in thickness is ready at hand and inviting the labor to take it out to supply fuel for making, for that use, the iron which is brought at so much expense across a broad ocean. Again, the English steamboats, which run into Chigocto Bay, in Nova Scotia, are propelled by coal imported from Great Britain, while the hulls of those very boats often pass within a few feet, and sometimes directly over an extensive coal strata, from which they might readily be supplied, even by the very crews which navigate them. In fact, it is said that small vessels from the United States do not unfrequently run into that bay (where the tide rises and falls about fifty feet), anchor directly over the coal strata, and when the tide goes out fill up with coal from the seams which are uncovered by the rising water! Is it a matter of wonder that the Provinces are seeking annexation to the United States?

By Express.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co.'s tariff) on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

MINING AND SCIENTIFIC PRESS

PATENT AGENCY.

For the Pacific Coast.

OFFICE OF THE MINING AND SCIENTIFIC PRESS—No. 505 Clay street, corner of Sansone, San Francisco.

Information for Inventors!

Inventors on this coast having their applications for patents made out through our Agency can sign their papers at once, and thus secure their rights at least three months sooner than by sending the same to distant agencies, situated in New York or Washington. The first question that presents itself to the inventor, who desires to procure a patent, is: "Can I obtain a patent?" A positive answer to this question is only to be had by presenting a formal application for a patent to the Government, embracing a petition, specification, model, drawings, and the payment of the prescribed official fees. Aside from these steps, all the inventor can do is to submit his plans to a competent and experienced business of obtaining patents, and solicit their opinion and advice. If the inventor consulted are honorable men, the inventor may safely obtain his ideas to them, and they will inform him whether or not he is entitled to a patent, and whether or not he should retain his rights in his own hands, or whether he should apply to the Government for a patent. These who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to see them in person at our office, or to visit them by mail, or through the Mining and Scientific Press. In all cases they may expect from us an honest opinion. For these consultations, opinion and advice, we make no charge. A pen-and-ink sketch, and description of the invention should be sent, together with a return postage. Write plain; do not use pencil or pale ink; be brief.

Remember that all business committed to our care, and all consultations, are kept by us secret, and strictly confidential.

Caveats.

A caveat is a confidential communication made to the Patent Office, and is therefore filed with its secret archives. The privilege secured under a caveat is that it entitles the inventor to receive notice, for a period of one year, of any application for a patent subsequently filed, and which is adjudged to be novel, and is likely to interfere with the invention described in the caveat. The caveat is not required to complete his application for a patent within three months from the date of said notice. Caveat papers should be very carefully prepared. Our fee for the service varies from \$10 to \$20. The Government fee under the new law is reduced to ten dollars; and this sum does not apply, as heretofore, as part of the fee on presenting an application for a patent.

Expense of Applying for a Patent, Rejections, etc.

Under the new law, the Government fee, on filing an application for a patent, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded. Englishmen, Frenchmen, and Americans, who have obtained every nationality, may now obtain patents in the United States upon the same terms as our own citizens. The only discrimination made is against subjects of government that discriminate against the inhabitants of the United States. To the foregoing official fees must be added the Attorney's fees for preparing the various documents and drawings, and charges for procuring a case, presenting it to the Government, and attending to all business connected with it, until a decision is given, is from \$20 to \$40. If the patent is granted no further agency expenses ensue. If the application is rejected, we can advise the inventor to investigate the reasons presented to the Commissioner for refusing the patent. In making this examination, our Washington agent has access to all the drawings, models, books, and specifications filed in reference, and we report the result as early as possible to our client.

If the rejection proves to be an unjust one—which sometimes happens—it can generally be reversed, and the patent granted. For this purpose, the inventor should be charged a fee proportionate to the extra labor involved, payable only on the issue of the patent; but our demand will be reasonable, and satisfactory to both parties, and will be arranged beforehand by special agreement.

The system adopted by us works well, gives general satisfaction and presents to all applicants, rich or poor, an equal chance of securing a patent. For this reason, we have been and are prosecuted in the best manner, by experienced attorneys, upon the most moderate terms. Inventors who have rejected cases, prepared either by themselves, or for them by inexperienced attorneys, are invited to avail themselves of our unequalled facilities in securing favorable results. We have been successful in securing Letters Patent in many cases, such a matter. Our terms for such cases are very moderate.

Models, Remittances, etc.

The law requires that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions; it should be neatly made, of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it conspicuously.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express or otherwise, to our address, name, Lab. Press & Co., Mining and Scientific Press, No. 505 Clay Street, corner of Sansone, San Francisco, Cal. Prepay expenses and send express receipt to us by mail.

Simultaneously with the model, the inventor should send us the first installment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on New York, payable to our order. Always send a letter with the model, and also the remittance stating the name and address of the sender.

A full description should also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

On the receipt of the model and Government fee, the case is duly registered upon our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc., to the Patent Office. The inventor should be notified of the state of their application in the Patent Office, when it is possible for as to do so. We do not require the personal attendance of the inventor, unless it is one of great complication; the business can be handled by correspondence.

When the invention consists of a new article of manufacture, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished.

The average time required to procure a patent, when the case is conducted at our agency, is three months. We frequently get cases through in less time, but in other cases, owing to delay on the part of officials, the period is sometimes extended to four or five months, and even more. We make a special point to forward our cases as rapidly as possible.

Patent Office Fees, and How Payable.

Nearly all the fees payable to the Patent Office are positively required by law to be paid in advance.

The following is the Government tariff of fees established by law:

On every application for a design, for 3 years and 6 mos.	\$10
On every application for a design, for seven years.	15
On every application for a design, for fourteen years.	30
On every application for a patent, for seven years.	15
On every application for a patent, for fourteen years.	30
On issuing each original patent.	20
On filing a disclaimer.	10
On every application for a re-issue.	30
On every additional patent granted on a re-issue.	30
On every application for an extension.	50
On the grant of every extension.	20
On appeal from the Commissioner of Patents to the Court of Appeals.	10
On every appeal to the Judges of Circuit Court, D. C.	25

We have had successful experience in conducting these appeals and our services are rendered on moderate terms.

N. B.—We make out our own forms for applications, etc., and provide respectfully inform all parties that we have no printed blank forms for sale.

DEWEY & CO., Agents,

Mining and Scientific Press Office, No. 505 Clay street, corner of Sansone, San Francisco.

Pacific Mail Steamship Co's

THROUGH LINE TO NEW YORK,

Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers for ASPINWALL for New York.

On the 10th, 18th and 30th of each month (but has 31 days).

When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departures of 15th or 19th connect with French Transatlantic Co.'s steamer for St. Nazaire, and English steamer for South America.

Departure of 10th connects with English steamer for Southampton, and P. R. R. Co.'s steamer for Central America.

Departure of the 30th connects with English steamer for Panama, the port of the new lines.

The following steamships will be dispatched on dates as given below:

August 18th—SACRAMENTO. Capt. J. M. Gavarly. Connecting with HENRY CHAMBERLAIN, Capt. Gray.

August 24th—GOLDEN AGE. Capt. E. S. Farnsworth. Connecting with NEW YORK, Capt. Hurd.

Cabin passengers berthed through. Baggage checked through and pounds allowed each adult.

An experienced surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Inman Line, can be obtained at office P. M. S. S. Co., San Francisco.

For Merchandise and Freight apply to Messrs. WELLS, FARGO & CO.

The splendid steamship COLORADO will be dispatched for CHINA on TUESDAY, January 1, 1889.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

FAIRBANK'S

HAY,

COAL,

CATTLE,

Mining Summary.

CALIFORNIA.

Alpine County—

The Silver Mountain *Bulletin* of August 4th, has the following items: D. N. McBeth has leased the O. K. mine from the shareholders (himself being one) until the first day of June, 1867, and commenced operations thereon. There is no water in the mine at the sixty-foot level, and after the hoisting works are erected, paying ore can be taken out within two weeks.... The George Washington company have leased for two years, with the privilege of a renewal, D. Davidson's steam saw-mill, situate about one mile below town, which will be converted into a quartz mill.... There is a 40-horse power engine connected with the mill, in addition to the water-power furnished by Silver Creek, which will be ample for the purposes of the company.... The indications in the Mountain tunnel are that a ledge is near. A considerable stream of water followed a blast a few days ago.

The Alpine *Miner* of 11th instant says: In the Mullan the boys are down seventy-eight feet with their shaft—as fine a piece of work as can be found in any county. For the last few days the work has been in a decomposed quartz, which leads to the hope that they will soon strike the solid ledge.... Some thirty-five men are at work on Davidson's saw-mill, which is to be converted into a quartz mill, with roasting furnaces and barrel apparatus, for the George Washington company.... The drainage of the creek from the point where the American lode crosses, has laid bare a portion of the croppings before concealed, proving the lode to be wider than heretofore supposed. Alpine county now furnishes her own lime.

Amador County—

The *Ledger* of August 11th has an editorial on the subject of "Our Undeveloped Mines," in which it suggests to those who desire to invest, that they may often get as good a mine for a few hundred dollars expended in developing a lode on shares, as they would get for as many thousands expended in the purchase of one already developed. We quote: "Amador county now contains about twenty-five operative quartz mills, running over 400 stamps, and crushing about one hundred and twenty-five thousand tons of ore annually. The number of thoroughly developed and well proven mines does not probably exceed forty; these, with the proceeds of some twenty or thirty others in progress of development, yielded not less than two millions of dollars. And yet no one knowing anything of the subject would hazard his reputation by denying the assertion that for every paying mine in the county ten equally valuable ones might be developed within two years time. All that is required is properly directed labor and capital. We would enumerate a hundred good prospecting lodes—lodes that are as promising in all respects as were the richest—lying idle from sheer inability of the claimants to work them. * * There are many persons holding claims on lodes, and have been for years, who would be glad to have them prospected, and give the prospector from one-half to four-fifths for their outlay, and the cost would rarely exceed from one to five thousand dollars."

Butte County—

The *Record* says: In addition to the ledge of iron ore, which we noticed as having been located last week, we understand that another claim has since been located, and also a cinnabar claim. The iron vein has been traced in a southerly direction from near the southern boundary line of Plumas county to a point on the south side of Feather River, near Bidwell's Bar.

Calaveras County—

The Copperopolis *Courier* of the 11th inst. has these items: The quartz claim of Messrs. Thorn & Irvine, situated at Rich Gulch, near the Mokelumne river, cleaned up twenty-four ounces last week, from two tons of rock crushed in an arrastra.... From eight tons of rock taken from Willis & Co's claim, at West Point, \$1,023 were extracted.... Work in the Napoleon is steadily progressing. Fifteen men are now engaged in and around the mine.... Tom McCarty, of the Log Cabin, struck a promising lead not long since, about four miles from the cabin. The rock is rich, and the lead well defined.... The new engine house on the Union claim is a fine and substantial structure. The engine is now running like clock work.

The *Chronicle* of same date has the following: We are informed that another lead of pay dirt, the existence of which was not suspected, has been recently struck in the American shaft.... Charles Ghoulson has just discovered a "bunch" in his claim, with ore worth \$120 per ton.... Johanson & Willis have rock worth \$140.

Los Angeles County—

The *Alta* of Aug. 10th, has an article from which we quote: The oil districts are looking up. One of the San Buenaventura mines has suspended work for a short time in consequence

of the difficulty of keeping employees. They have plenty of oil, but the gas is so strong in the tunnel that workmen cannot be induced to continue the labor. When, however, a chimney is cut in the tunnel for ventilation, the mine can be readily worked. In this county we not only bore for oil and dip it up from springs, but run tunnels for seepage, and follow the vein in the same manner nearly as in mining for ore. The Pioneer Oil well has gone through three hundred and eighty feet, and struck a vein of water which flows out, at forty barrels per hour.

Mariposa County—

The *Gazette* of Aug. 11th, says: The large quartz vein immediately below the town of Coulterville was sold Thursday last by Mr. J. F. Johnson, to some capitalists for \$10,000. Four thousand dollars of the above amount was paid down, and the balance to be paid if the vein proves satisfactory to the purchasers.... We have heard of several "good strikes" being made in quartz, the past week. Mr. Footman found a rich vein on the mountain east of Lovejoy's Mill, and Fred. Weber found another on Sweetwater.... Rumor has it that Mr. Haskell sold his interest in the Copper Lode at Buchanan Hollow. The amount he received is said to be \$22,000.

The *Free Press* of the same date has the following: Dr. McLean has commenced work on the Pino Blanco mine, near Coulterville, which he recently purchased, and contemplates putting up a mill within a few months.... We understand a party of capitalists have invested in the quartz vein west of the town of Coulterville. Rumor has it that the purchasers represent several millions of capital.

The same has an editorial on the mining progress in the county, and says that more activity is displayed at the present time than ever before since the commencement of quartz operations. It says a false impression has obtained abroad in reference to Mariposa county, that it is identified with the estate of the same name, and that, in consequence, the name has become significant of swindling and sharp practice. The article gives an "outline of the history of this great humbug, from Fremont to Dodge Brothers, saying that ostensibly the "Mariposa Company" represent twelve millions of capital; but that the valuation, as sworn to by Dodge Bros. was only \$118,750. It closes with the following: "It is about time that the public should know that the so-called Mariposa Company lacks a few acres of owning this entire county."

The yield of the Pine Tree, Josephine and Princeton mines, on the Mariposa estate, for twenty-four days in July, is said to be \$28,000. The ore extracted averaged \$9@12 per ton. *Financial Col. of Bulletin.*

Nevada County—

We clip the following items from the *Gazette*: We learn that a large amount of prospecting for quartz is now being done in the vicinity of Omega. Quite a number of ledges have been found which show free gold, and the prospects of some of them proving valuable are very flattering indeed.... We were shown yesterday some fine specimens of sulphuretted ore from the Federal Loan ledge, situated about three miles above Nevada, on Deer Creek. The specimens were taken from the shaft, at a depth of one hundred and sixty feet, and where the ledge is about three feet in width.... We learn that the Oriental mill, which has been idle for some weeks, will be started up again this morning (10th) on rock from the Willow Valley ledge. The company now have out about seventy-five tons of rock, and purpose making a run of a hundred tons before cleaning up. They will probably take out rock enough to keep the mill running steadily.... R. W. Latta brought down from Washington, on the 13th, a nugget of pure gold, weighing nine ounces, and valued at \$160. It was found a short distance above Washington, in a ravine putting down to the Yuba from Gaston Ridge. This ravine had never been worked until within a year past.... The new mill at the town of Carlisle is nearly completed, and we learn will be started up next week. The first rock crushed will be from the Grant ledge.

A gentleman from Omega informs us that A. T. Fry, James Spring and others, have been working for some weeks past on a ledge which proves to be an extension to the "Fidelity" ledge, a few miles above Omega. They had sunk an incline on the ledge to the depth of twenty-five feet, and on Wednesday last struck very rich rock in the bottom of their incline where the ledge is about three feet wide. Our informant states that a man could make twenty dollars per day by pounding up the rock in a hand mortar. The discovery is on Diamond Creek Hill, about three-fourths of a mile from the Fidelity Works, on the South Yuba.

The Grass Valley *National* has these items: The Redan Mine, on Oshora Hill, which has been lying idle for two or three days past, in consequence of the breaking of portions of their pump, resumed work yesterday morning, the breakage having been fully repaired.... Schardin & Co. have struck a very fine ledge

in their claim at the head of Cornmeal ravine, near Newtown. The rock shows large deposits of free gold, and otherwise looks very promising.... A very handsome ledge has been struck in the Gem mine, at Eureka, owned by Messrs. Curtis & Hunt. The rock will average \$40 to the ton.

J. S. Crall recently sold a one-twelfth interest in the American claims, at Sebastopol, a short distance below North San Juan, in this county, for \$22,000 in gold.—*Grass Valley Union.*

The *Transcript* of 11th inst., says: The shaft in the Italian mine is now down fifty feet. The ledge is over two feet wide, and well defined. The rock is studded with free gold, and the next crushing will pay more than any yet. The last lot worked paid \$72 per ton. Wherever this ledge has been tapped on either extension the rock is of the same character, giving indications of great richness.

EXCELSIOR.—The *Union* says: We published a short time since an item from the Meadow Lake *Sun*, announcing that the Enterprise Mining Company had repudiated the contract with Goss & Lombard, of Sacramento, for crushing their rock. We are authorized to state that this is not so, and that the mill is already at work crushing the rock of the company under the contract which was originally entered into.... Twenty-nine tons of rock from the mine of the Mohawk and Montreal Company, at Meadow Lake, recently crushed at Winton's mill, yielded a bar of gold weighing fifty-one ounces, and worth over \$800. This was from the free gold, there being saved some six tons of sulphurets yet to be reduced, which will yield \$35 or \$40 a ton, thus bringing the total yield up to some \$38 a ton. So says the *Gazette*.

The *Sun* has the following: We paid a short visit to the Excelsior mill to-day, and found its construction rapidly advancing. The pans and pan-shaft are in their places ready for work. The batteries are fully completed; and next Thursday, when the balance of the machinery is expected to arrive, every thing will be immediately placed in its proper position, and the mill ready for work.... Rich surface diggings have been struck near Bowman's ranch, on the Denness road. A ledge called the American, has also been discovered in the same vicinity.

The Grass Valley *Union* of August 11th, says: We believe that the mining district in and about Meadow Lake embraces some excellent quartz lodes, the richness and extent of many of which has been satisfactorily demonstrated by assay and mill process. But time, capital, patience and industry are required in developing any quartz region, and Meadow Lake can prove no exception to this rule. In another year, or perhaps two or three years, we predict that Meadow Lake will have at least half a dozen extensive, dividend-paying mines, which will give employment to hundreds of men, and thus furnish a substantial business basis for a prosperous mining town.

Placer County—

The *Stars and Stripes* of August 15th, says: Subscriptions come in slowly to the Auburn quartz mill, yet more rapidly than some of its projectors hoped. About \$4,000 have been subscribed, and there is now no doubt that the mill will be erected. Hurry up, friends, and let us have the mill to grinding right speedily, for so much goodly quartz waiteth for its operation.

Plumas County—

Yesterday, says the *Quincy Union*, August 11th, we were shown 100 ounces of gold taken from sixty pounds of rock from the French Ravine ledge near Rich Bar, East Branch. Mr. R. Irwin, who brought the dust out to send it to the mint, informs us that the rock was crushed in a hand mortar, and the above statement as to the number of pounds crushed and the amount realized, is correct.

Sacramento County—

The Nevada *Gazette* of August 9th, says: The new quartz mill of Palmer & Day, of Folsom, is about ready to start. It is situated on the Placerville road, half a mile above White Rock, on the Jersey Blue Ledge. They have a large quantity of good rock out, and a mine which at Grass Valley would sell for \$250,000.

Shasta County—

The *Courier* of August 11th has these items:—Encouraged by the rich prospects obtained from the Harrison lode, the Mammoth Company have decided to start their mill again next Monday.

Letter to the same from Roaring River, dated August 5th, says:—No greater field for profitable investment of labor and money in mining exists anywhere than in this Roaring River and Gas Point region.... Many claims have been opened, and work begun with hydraulics with a pressure of from forty to sixty feet; not enough to cut the hawk fast enough to make it profitable, though wages have always been realized, and in many instances small fortunes made when a soft streak could be found. The experiment of getting the dirt

down by means of powder is now being tried by a company here and with flattering prospects.

Sierra County—

From the Mountain *Messenger* of August 11th, we clip the following:—For our own satisfaction, we tested four ounces of Good Hope rock in which no gold was visible, and from it, much to our astonishment, we obtained nearly half a troyounce of fine gold.... Wm. Fisk, Esq., of Eureka, has sold out his ditch property to the Derrick mining company.

Editorial correspondence same, says of the Bear Valley mines: At the Lacony several companies have been prospecting by sinking shafts. The General Grant is down about sixty feet. The ledge prospects well, both in silver and gold. There are but few miners working in this district.

Letter to same from St. Louis, says: The mines, so far as I can learn, are yielding well this season, rather above an average, I believe, of preceding years. The Union Water company are extending their ditch from this place to Poverty Hill and Scale Diggings, about twelve miles distant from this place. This ditch will be the means of developing more mining ground than has ever been worked in Sierra county up to the present time, and I am inclined to think that Mt. Pleasant ranch will yet be the heart of a large mining town.

Gray & Herricks, of Gold Valley, have apparatus completed for working their ore on a new plan, by which they expect to add fifty per cent. to the yield. It assays \$200 to the ton.

Trinity County—

The *Journal* of 11th inst. has this item: We saw a sight worth looking at in the vault of Greenwood & Newbauer's Bank, last Saturday evening. It was nothing less than seventeen hundred ounces of gold dust, taken from three claims in the Weaverville Basin, and valued at over twenty-nine thousand dollars. This is not intended as a sensation item; similar sights have been visible there every week since "washing-up" commenced. There is not a mining locality in California where work has been continually prosecuted for fifteen years, which at the present time yields as richly as the Weaverville Basin.

Tulare County—

A correspondent from Havilah, Tulare county, says mining still goes on, quietly and successfully: The Pioneer Mill, (Thomas) Rand & Co., Bigler & Birdseye, and Marsh & Kennedy, are all working regularly and successfully. Others are doing work partially, some stopping for want of rock, and others for lack of money.

Yuba County—

A correspondent writing from Rocky Bar, Yuba river, says the river miners are busy. Richards & Co. are stripping—removing top dirt—by means of a water-power railway. The Rocky Bar company (Chinese) have a splendid water derrick. Also Murkin & Co. Rollerman & Co., last Saturday night week, had their sluices robbed of a week's run.

The *Appeal* says: In a published statement of the yield per ton of fifty-one paying mines in the southern part of the State, we find but fourteen that yield better than the Pennsylvania ledge at Brown's Valley. Mr. Chamberlain, of the Hayward mine, says these mines are favorable in three essentials—the ore is cheaply raised, easily crushed, and gold saved with a small percentage of loss. Two mines of Brown's Valley are now fully developed, and can be made to yield, with the same management, as richly as the Hayward mine of Amador, reported to be worth \$1,500,000.

NEVADA.

Washoe—

The shaft in the Crown Point mine at Gold Hill, 430 feet deep, has recently been retimbered, the timbers being set in the new style, twelve inches square. A new hoisting cage has been put in and another one is nearly ready for its place. The mine is said to be yielding 1,000 tons of ore daily.... The total product of the Hale & Norcross mine for the past month was 2,729 tons of ore, valued at \$141,000. This mine has declared a dividend of \$75 per foot.... There is some improvement in the Empire Mill, and the production of this mine will undoubtedly be materially increased in the future.... During the past week 900 tons of ore have been taken from the Savage mine, and 766 tons shipped.

The Gold Hill *News* of August 10th, says: The Yellow Jacket mine is as successfully worked now as at any other time since its incorporation. The company, from their 560-foot level, are now taking out an average of 300 tons of ore per day through their north and south shafts. Scientific, systematic mining is the order of the day, and the Yellow Jacket officers know this right well. As an evidence of what we say, a fifty dollar per share dividend was declared this morning by the trustees, and there are more coming.

We understand, says the New York *Mining Journal* for July, that Mr. M. Sutro has gone to Europe to seek from the capitalists in London, the \$3,000,000 needed for the completion of the great adit known as the Sutro Tunnel.

We should have been better pleased to hear that the prosperous silver companies mining the Comstock all the way from Cedar Hill to beyond Crown Point, had clubbed together and subscribed the requisite amount.

Reese River—

The *Reveille* of 4th August, has these items: We have been informed by Robert Morrill, who has returned from the Philadelphia district, that the Silver Chamber has been developed into a twenty feet ledge. The mineral is generally of the same character—a silver copper glance, of highly variegated colors—as that contained in the Transylvania and El Dorado. Everything was progressing finely, and Buel's mill was being rapidly pushed to completion. . . . Mr. Bradley, of this city, has laid upon our table a fine specimen of red oxide of copper ore, from the Battle Mountain district, situated about ninety miles north of Austin, near the Humboldt river. It was procured from a ledge represented to be twenty feet wide.

Same paper of 7th says: Mr. Hiller, the superintendent of the Buckeye mine on Lander Hill, informs us that they uncovered the ledge yesterday at the depth of 140 feet. . . . New discoveries had been made recently northwest of the Transylvania. One of the principal ledges was called the Green & Oder, which is situated about three quarters of a mile north of the Silver Champion. The ledge is represented to be ten feet thick at the surface, and it has been traced in a nearly straight line over hills, ravines, and canons for six miles. About one mile north of the Green & Oder location, there is another claim called the Savage, where the great ledge has widened at the surface from ten to fifteen feet. Another location had been made about half a mile east of the Green & Oder, called the North Star Potosi company. . . . Fifteen hundred pounds of the ore from the Richey & Hussey, Northumberland district, will be sent to the mill for reduction.

Same of 9th says: We have been informed that the work of the Timok mine, on Lander Hill, has been unusually successful. During the past month a large body of high grade ore was developed in the mine, the handsome result of the working of which will be a dividend of one and a half per cent. on the capital stock of the company for the month of July. . . . Assays of the ore from three ledges in the Northumberland district were as follows: Welty, \$129.30 of silver per ton; North Star, \$38.56; Rough Diamond, \$120.87. . . . The Enterprise ledge, a new discovery in White Pine district, has been opened through an excavation ten feet deep, where it is three feet thick, exhibiting a brownish chloride ore, which assayed \$1,340. The General Rosecrans, Gettysburg, and Uncle Sam are old locations upon the same hill, and have all been stripped and opened by slight excavations. Samples of their ore assayed as follows: General Rosecrans, \$270; Gettysburg, \$102.09; Uncle Sam, \$788.58. On the east side of White Pine Mountain lay the Bay State and the General Lyons, the former of which has been opened to the depth of eight feet, disclosing a ledge three feet thick, and the latter by a cut three feet deep, showing a ledge three and a half feet thick. An assay of the ore from the former yielded \$113.54, and of the latter, \$440.63.

Esmeralda—

The *Union* of August 11th has the following items: The hoisting machinery now being erected by the Philadelphia company is of the best and most substantial kind, and will be ready to start up on Monday next, when work will be resumed with the utmost vigor. . . . Several sales were made the first of this week of mines in the Red Mountain district, near Silver Peak, one of the sales including the mill of Martin & Co., with the adjoining lots of land belonging to the company. The first deed is from E. G. Carpenter to Samuel B. Martin for \$30,000, the second is from J. M. Cammack to Samuel B. Martin for \$36,000, and third from J. H. Phillips and others to Samuel B. Martin for \$12,000, making in the aggregate \$78,000. . . . Mining has been resumed this week on the Crockett ledge with the intention of working it systematically and thoroughly. . . . Mining and business prospects seem to be rapidly brightening in this county, and the indications of improvement observable everywhere are generally of a more permanent character than have been witnessed here for a long time. . . . Work has been resumed on the Monroe and Thatcher tunnel. As soon as the outlet is straightened, they will commence driving the tunnel into the hill. . . . Most of the prospectors have left the new mines near East Walker, it being generally supposed now that the new lead discovered by Mr. Wilson is the only one in the vicinity. The country is well calculated to speedily demoralize a prospector.

Humboldt—

From the *Register* of August 4th, we clip the following: The North Star ledge continues improving. A shaft is going down, and in three or four days' work the ledge widened from ten inches to about three feet. The quartz is soft, easily worked, surrounding rock

soft, and a large clay seam lining the walls. A few pounds of the rock worked by mill process yielded about twenty-five cents to the pound of rock. Native silver splashes are common in the rock, and an experienced miner threw out not more than 1,500 pounds of rock in assorting something like eight tons for the Pioneer mill. . . . An interest in the National and Downey claim has been disposed of to parties in the East for a working capital.

Pahrump—

The *Reveille* of the 9th says: We learned from Mr. S. B. Pike, who arrived here several days since from Pahrump, that work was only slowly progressing there for want of means. He spoke highly of three or four ledges in the district, particularly the Illinois, which he regarded as a fine vein of large dimensions, and exhibiting superior mineral. He brought a number of specimens from different ledges in that section, among which were several from the Santa Rita, a large vein nine feet thick, and well developed through an excavation ten feet deep.

Black Rock—

The Humboldt *Register* of the 4th instant says: A citizen who returned from this mysterious district last week—a close examiner and good judge of mining features—assures us that he believes Black Rock is the richest mineral country in the world. He says sixteen large ox teams are constantly hauling rock to Dull's mill, and that the mill pays as high as \$100 for some of the ores. Ledges of great length, and as wide as you want them.

ARIZONA.

The Reese River *Reveille* of the 10th inst., gives extracts from a Pahrump letter of date August 1st, from which we quote: Parties from San Francisco are building an extensive stone warehouse at Callville, on the banks of the Colorado, in the expectation that the steamers of the Navigation Company will find it profitable to make regular trips from the mouth of the river. There was much talk and excitement among the Mormons about rich gold diggings which had been discovered about seventy-five miles from Callville. It is reported that gold had been brought in by the Indians, and two of the Mormons told me they had been at the diggings. I intend going there with eight or ten men, to make our pile or get bilked, probably the latter.

IDAHO.

The Owyhee *Avantache* of August 4th, has the following items:—Two discoveries of good ledges have been made this week, near the Carrico & Varney, on Florida Mountain. . . . South of Wade's Gulch, a ledge has been struck this week that has every indication of the Poorman. It is on a line with this ledge, and the strikers are elated over the indications. . . . The Richman and Varney & Carrico—of which we spoke last week—are being developed with the most flattering improvements. The Trook & Jennings and South Extension of the Morning Star are inspiring additional confidence. . . . There is a species of placer mining going on in Blue Gulch, rather new to Owyhee—that of deep diggings reached by tunneling. We learn from Daniel Colehower, that he is interested in a claim of this kind at the head of Blue Gulch, and has a tunnel (with branches) in eight hundred feet. Pay dirt is taken out in the Fall and Winter and washed in the Spring.

An editorial in the same paper exclaims against the selling 3-inch seams of quartz to Eastern capitalists for rich veins. It argues, with truth, that the practice has seriously injured the reputation of the Owyhee mines; and adds:—Letters from influential men have been written to New York warning capitalists to not believe the word, oath or representations of any man who is there trying to negotiate the sale of ledges. Why? Because their experience has taught them a costly lesson. We have not heard any one representing eastern interests doubt the existence of many very valuable ledges in Owyhee, in truth enough to make an exceedingly flourishing and permanent mining community.

The *Statesman* has these items:—A new mining camp has been discovered four miles from Mormon Basin, that will no doubt prove to be very rich. A Mr. Glover took out one piece of solid gold weighing 40 10-16 ounces, worth \$640. . . . Good hill diggings have been struck in Boise county, between Boyle's Gulch and Ophir creek, near Placerville. They are reported as paying from 50 cents to \$1 per pan. There is great hope that this species of diggings will prove extensive and revive the flush times of 1863.

The *World* says:—The "French Company," near Pine Grove, took out \$26,000 last week for one week's run. From a 24 hours' run they cleaned up 292 ounces. . . . J. Marion Moore has sold his interests in the Boise Basin for \$45,000, to his partners; and will hereafter give his undivided attention to his Owyhee mines.

MONTANA.

The following items are from the Deer Lodge correspondent of the *Post*, July 28th: Elk Creek has depreciated somewhat in the esti-

mation of a few lately, but chiefly on account of the failure of water.

Benr Gulch presents quite an animated appearance, and a large amount of work is being done in development of that place.

I Henderson and Harvey gulches are proving very good, and quite recently some new discoveries have been made in the vicinity of the former creek. It is said there are now one thousand men at the new diggings. They are reported to pay well, and are very shallow, being only from two to three feet to the bed-rock.

Silver Bow, Butte City, and Oro Fino, are all better camps than ever before, and a large number of men are being employed.

Editorial of same paper says: During the past week, Prof. or Henke of this city (Virginia City), accompanied by Assessor Everts, has spent several days in exploring the mountains west of us. His reports are highly satisfactory. Within a distance of five miles, he found coal, iron, slate, and several quarries of syenite. We have seen specimens of the coal and iron. The coal burns freely, has a brilliant fracture, and when subjected to the blow-pipe, emits a bituminous odor, similar to that of the coal of Western Pennsylvania. The width and extent of the veins it is, as yet, impossible to determine, but we learn, that they have a good cover of slate, and can be worked by drifting with success. The iron ore exhibited to us was equal to any we have ever seen, in weight and purity.

The *Gold Hill News* has seen a Helena letter, from which it quotes as follows: "My impressions of the part of the country are not very favorable; though there are some very rich diggings here; but they are spotted, and too far apart, and water too scarce, for the number of people that are here. . . . There are a good many old Nevadans and Californians here—some few doing well, but the greater part of them doing nothing. . . . Quartz mining in this country, I think will not amount to much; at least, not for some time to come. . . . Nearly all the people from the western slope call this country a—bilk. I heard an old California acquaintance of ours give his idea of this climate, the other day, (and I think his head is level) He says "they have eight months winter, and four months quite late in the fall." . . . I can't advise you or any of my friends to come here."

COLORADO.

The *Denver Gazette* says: Those hopes so generally entertained at the commencement of the season, that we should have really good and lively times in the mountains this summer, have not been realized. Were it not for the furor occasioned by the late discoveries of gulch digging and the prosperous state of the old placer grounds, the present condition of our gold and silver quartz mines would be more severely felt than it is. It would be useless for us to endeavor to inquire into and elaborately state the causes which have brought about these results. Every one at all acquainted with Colorado affairs during the past two years has had them constantly impressed upon him, and the reasons why our mines are not in that flourishing condition which they should and could be, have been perfectly exhausted by the local press, and have long formed a standing topic for the "cognoscenti." For the benefit of the uninitiated, we will compress them briefly into these two causes: "The difficulty of saving the gold from the sulphurets, and the extravagance and useless expenditure of capital by companies formed in the Eastern States." * * As we understand it, Lyon's smelting process only claims to save the gold and silver, and the baser metals, and it is in these baser metals that a great portion of the value of the ores consists. Indeed, the agent from the Swansea Smelting companies sent out to this country to report on its resources, is stated to have given it as his opinion that the copper alone in some of the lodes would pay the expense of transportation to Europe and smelting, and further, that the Gregory lode was one of the richest, if not the richest, copper lode in the world. If this is the case, the future of Colorado, when the railroad shall insure us cheap transportation to the Missouri river, will, indeed, be a brilliant one.

MEXICO.

We condense the following from the *Alta* of 10th inst.: Col. Robinson, who lately arrived from Mexico, has been for the last four months examining the Coarhottite and Rappahog gold mines, and the San Cristobal, Wellington and Central copper mines—all located in the District of Rosario, Sinaloa, Mexico. The Coarhottite and Rappahog have fine quartz mills erected on them, but from bad management of the superintendents who have had control of them, they have not been made to pay dividends. It is true the unsettled condition of the country has to a certain extent prevented the free working of the mines. Nevertheless, by proper management, they can be made to yield largely to their owners. It will require but little capital to start up the mills.

The following is the result of different ship-

ments of copper ore sent to Bremen for reduction, from the San Cristobal copper mine, showing the net profit on each lot of ore from different parts of the mines:

On \$420 lbs., net profit,.....	\$ 136 75
On 77,700 lbs., net profit,.....	1,207 71
On 44,700 lbs., net profit,.....	7,091 76
On 216,500 lbs., net profit,.....	5,936 27
On 23,570 lbs., net profit,.....	422 64
On 2,620 lbs., net profit,.....	401 21

Or about 194 tons, at an average profit of \$47.40 per ton. By manual concentration these ores can be made to yield thirty per cent. of copper metal, and by fire in our smelting, from sixty to ninety per cent. The silver, which is about forty dollars to the ton of ore, will concentrate in proportion in the regulus.

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medal this year. 12v11-1y

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SAN FRANCISCO, Jan 11th, 1866.**Mr. I. N. Hudson,** is authorized to solicit subscriptions, advertising, etc., for the MINING AND SCIENTIFIC PRESS, in San Francisco, and to receipt for the same.

It is impossible for editors to know all the merits and demerits of their correspondence, consequently the reader must not receive the opinions of our contributors as our own. Intelligent discussion is invited upon all sides and the evidence of any error which may appear will be received in friendship and treated with respect.

San Francisco:

Saturday Morning, Aug. 18, 1866.

GALE'S NON-EXPLOSIVE GUNPOWDER.

The experiments of the English government for bringing into practical use Gale's method of rendering gunpowder in explosive are still in progress, and the opinion is gaining ground that it will yet be adopted, to a greater or less extent. A large quantity of powder, prepared after Gale's patent, was recently placed in an old isolated government building, the building set on fire and allowed to burn down. Dense volumes of fire and smoke issued from the doors and windows; the only evidence of the presence of the powder was the color and fumes of the smoke—but nothing like an explosion was noticed. Nearly all the members of the Ordnance Committee were present at the experiment, and expressed their entire satisfaction at the result. The powdered glass is very easily prepared, as follows: The most ordinary glass is first heated to whiteness, then thrown into water to render it friable, and subsequently treated in a barrel, very much after the Frieburg process of working ores. But two or three minutes are required to reduce the glass prepared by heating to an almost impalpable fineness. This is mixed with the powder, in the proportion of two parts to one, if it is only meant to render it non-explosive, but still leave it fiercely combustible; in the proportion of three parts to one of common powder, if it is meant to make it incombustible; and in the proportion of four parts to one of the strongest gunpowder to make the latter absolutely harmless. Four parts are, however, generally considered necessary only for the strongest government powder. The method of mixing the two is simply an adaptation of Robinson's cask-cleaning machine, which gives to the cask it holds a rapid double motion, two minutes of which are sufficient to blend the glass-flour and the coarse grains of powder perfectly. It seems that the objection that the bulk of the powder is unnecessarily increased by Mr. Gale's process, is of but little account, for it appears that when gunpowder is stored in the ordinary manner the kegs are but three-fourths filled, in order that the grains may be free to roll, and so prevent their "caking," and a large portion of the glass is also occupied in filling up the interstices between the grains of powder.

Previous to firing the building as above, several experiments were made to fire the powder by electricity, in which some of the kegs of powder actually went out after burning a short time.

A LITTLE boy in Nashville cried himself to death recently over the death of his Newfoundland pet.

THE NATIONAL MINERAL LAND ACT.

NUMBER ONE.

In discussing this subject farther, we will first reply to our correspondent "B. Honest," whose queries were as follows:

1st. Am I right in supposing that a patent, once obtained from the Government for mining claims, protects me from forfeiture of that ground, by abandonment, or by failure to comply with local laws after the patent is received; or in other words, will not, in all probability, a patent for mining grounds give me as absolute and irrevocable title as is conferred by the U. S. Patent for agricultural lands?

Your first supposition is correct. If gained without fraud, your patent renders your title perfect, and as incontrovertible as the confirmation of the Government title to agricultural lands.

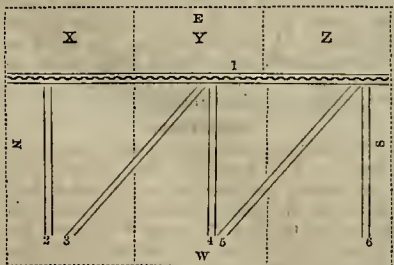
2d. Supposing a ledge on a west side hill to run north and south, facing west, and dipping east, and I locate 200 feet on said ledge, and make my north and south boundary lines at right angles with the face or croppings of the ledge, and claim all the dips, angles and spurs, without designating an eastern boundary; will not my location be in conformity with section 2d of the new law, and will not the "lateral dip," which I am allowed to follow by said law, be confined between the north and south lines, drawn at right angles, as mentioned above?

Your location would be in conformity with section 2d, unless there should be local laws (of the district or State) requiring a contrary form of location. The only spur, angle, dip or variation which you would be allowed to follow must certainly be confined between the north and south lines to which you allude.

3d. Is not the writer in the Marysville Appeal laboring under misapprehensions of what is strictly termed "square claims," and would not the boundaries suggested in query 2d, be sufficiently square to accommodate the working of his system of chimneys?

The "square claims" desired by the Marysville correspondent is probably just what we understand the new law provides for. He evidently horrors his trouble from erroneously supposing that the person or corporation owning that section of a lode where a rich seam or chimney crops out on the surface, may have the right to follow the pay streak or chimney in its oblique descent even though it should enter, on the right or left, the location of his neighbor's claim on the same ledge. He cannot possibly be in favor of strictly "square claims," such as were originally made in Nevada County, when the district laws called for lines on all four sides, forming perpendicular boundaries, and giving the owner his ledge only as far as it shall be found directly beneath his surface limits.

By the common method of locating quartz ledges, the notice claims the lode, commencing at a given point, and extending a certain number of feet north along said ledge; together with all its dips, spurs, angles and variations, with ground upon each side of the lode necessary for the purpose of working. This is unquestionably the style of locations held in view by the author of the National bill which has now become a law. Perhaps the following simple diagram will make the matter more plain to the reader who is not versed in vein mining:



1 represents the croppings of a lode running from north to south along the sidehill which slopes from east to west.

N. E. S. and W. show the points of compass; the dotted lines are the boundaries of the claims X, Y and Z.

2, 4 and 6 represent shafts following the lateral dip of the lode eastward, which may be followed into the hill beyond the eastern line

to any depth, "though it may enter the land adjoining."

3 and 5 are chimneys or enlarged streaks of pay ore, extending obliquely down the dip or strike of the lode. The division lines are at right angles with the course or trend of this lode. Chimney 5 commences at the croppings near the mouth of the shaft on company Z's claims, and passes the division line into company Y's ground. Z can only follow chimney 5 as far as Y's line, and Y can work chimney 3 only as far as to X's south line.

We assure our Marysville friend that the lateral dip or vein of a chimney can be followed to any extent desired, but not obliquely to the right or left. We believe that many of these chimneys have an oblique course, frequently occurring with a good degree of regularity. They also abound with large pockets and chambers, strung along their oblique course not unlike a string of beads. The uniformity of their occurrence is worthy the attention of careful and observant miners.

We find the discussion of this law a lengthy subject, and shall continue it from week to week. We are skeptical of its value to the Government or the prosperity of mine working.

LOOK TO THE WATER IN YOUR BOILERS.

Too great care cannot be observed by mill owners and engineers, especially in new mining locations, in carefully examining the water which they propose to introduce into their boilers for making steam. Boilers are very soon eaten away by some waters, often leading to disastrous explosions, but more frequently causing a rapid deterioration of the boiler, which soon involves the cost of a new one. Water from mines where copper pyrites are present, even in small quantities, usually contains more or less sulphate of copper, in solution, which always causes no little corrosion of the boiler plates, and is attended with a deposition of spongy metallic copper. All who are acquainted with the usual wet process of assaying copper must be especially aware of this action. Mine waters are rarely entirely free from saline or acidulous constituents, such as will produce more or less corrosion upon boilers. Soft waters, from the surface, also often carry a considerable amount of organic matter, free alkali or carbonic acid in solution, which produces a degree of corrosive action. The perishable nature of iron, when in alternate contact with water and air, used in any condition, is well known to every one; and no engineer should fail to keep a watchful eye upon both the never ceasing deterioration of his boiler and the kind of water used for making steam. A careful analysis of the usual supply of water, from time to time, could scarcely fail to be of use in guiding the engineer to the proper corrective agents for rendering the water employed as harmless as possible. Hard water containing bi-carbonate of lime may be readily precipitated, throwing down the lime as neutral carbonate, leaving a clear water, which will no longer form an incrustation when boiled, thereby leading to a rapid burning out of the boiler. Soft waters acting corrosively when boiled may be corrected by the addition of a little lime, and acidulous waters may be as easily corrected by the addition of alkali. An analysis of any water which acts corrosively on boilers, will almost always enable the chemist to point out some simple method of correcting the evil at a merely nominal expense.

TERRIBLE CATASTROPHE.—Yesterday morning, between two and three o'clock, the Summer-street House, a well-known lodging house, located on Summer street, between Montgomery and Kearny streets, and near California, fell with a terrible crash, burying beneath its ruins upwards of twenty-five of the inmates, eight of whom were killed, seventeen seriously and several others slightly wounded. The fire-alarm bells were immediately rung, and the Department called out to assist in clearing away the ruins, and saving such as might have escaped instant death. The cause of this terrible catastrophe was the undermining of the wall by parties engaged in putting up a new building by its side. The location is within three or four hundred feet of the former terrible nitro-glycerine disaster, upon the premises of Wells, Fargo & Co.

THE ATLANTIC CABLE A SUCCESS.

It is now twenty-two days since the eastern end of the Atlantic Cable was landed at New Foundland, a time quite sufficient to justify the opinion that the project is a complete success, as a mechanical and scientific undertaking. With regard to its pecuniary success, there can be no doubt when we reflect upon the amount of work it is capable of performing. On the 28th of July 4,000 words were transmitted through it in twelve hours; which, at the established price of \$5 per word, would be \$40,000 for a day of twenty-four hours. This is what the cable is capable of doing. The vast and rapidly increasing importance to the commercial world, of hourly communication with all the great centers of business, is a sufficient guarantee that no one line will be able to do the work that will soon be attracted to the offices of the company. That the parties having the greatest pecuniary interest in this enterprise are fully of this opinion, is sufficiently shown by the expedition which is now at sea for the purpose of fishing up the end of the lost cable, with the view of splicing on and completing a second line across the ocean.

The mining as well as the commercial world has a deep interest in this great enterprise. Speaking of its value to the mining interest, the American Journal of Mining, of New York, when in hourly expectation of the arrival of the wire on this continent, very properly remarked as follows: "Telegrams flashed backward and forward between the two continents must necessarily tend to equalize rates in the great mining and metal markets of the world. The San Francisco stock market is influenced by the working condition of the Comstock mine—as telegraphed hourly to that city from Virginia; the New York market, so far as Nevada stocks are concerned, is influenced by that of San Francisco; and the London market is similarly affected. But in London, at present, there are intervals of days without hearing of change in prices of stocks, and during those days violent fluctuations may have occurred. The telegram is the great equalizer, whether as to mining stocks or metal or any other sales. If telegraph wires connect every great center of trade in the world, then we believe prices everywhere (save the differences in tariff) must be more equal. The Atlantic is the only difficulty in the way of reaching all these centers, and therefore, as the public should be anxious to gain its benefits, they should show some sort of interest in the progress of the endeavor to secure them."

The attempt which has just proved such a signal success, is the fifth which has been made. The first in 1857, failed by the cable being broken when 300 miles from the starting point; the second in 1858 failed in consequence of a storm soon after the expedition got out; the third, also in 1858, succeeded for a time, and was the cause of great rejoicing, but for some unknown reason soon gave out; the fourth, in 1865, parted in mid-ocean; the fifth can now be safely pronounced a complete success.

Twelve years of arduous, anxious toil, of patient solicitation and of stubborn adherence to an idea, which nearly all the world pronounced chimerical, have now been rewarded by one of the most glorious triumphs of science and genius which the world has ever witnessed, and which has rendered the name of Cyrus W. Field immortal. The idea of the Atlantic Cable is essentially American, although British capitalists and the British Government are entitled to the chief credit of carrying it out. The failure in the earlier attempts were well improved in perfecting the manufacture and arrangements for laying the last cable. The Journal of Mining, of July 21st, give illustrative representations, descriptive of the different modes of constructing the several cables. The description of these illustrations shows very conclusively the superiority of the present cable over those which have preceded it. It is stronger, lighter and more flexible than either of its predecessors, and we trust it will withstand for a long time the action of the elements, and the strain of work which may be put upon it.

CUPRIFEROUS LIGNITES & BRUSHITE.

Vegetable remains, partially converted into copper, or accompanied by the sulphurets of that metal, are often met with in various parts of the world. These remains are usually termed "cupriferous lignites." In Pennsylvania, beds of vegetable stems, impregnated with vitreous copper and green carbonate of copper, occur in the shale at the base of the Devonian series. In several instances these "indications" have been worked as copper mines; but either the quality or quantity of ore does not seem to admit of their being made profitable. The mineral often occurs in the form of a gray sulphuret.

In the State of New York, cupriferous lignites occur under similar circumstances, in the Catskill Mountain series. They there often consist of vegetable casts, replaced by the sulphuret or carbonate of copper. In the provinces of New Brunswick and Nova Scotia, cupriferous lignites occur in the coal measures, and consist of ferns and other coal plants, impregnated with vitreous copper ore, and coated with green carbonate. These vegetable remains are converted partly into copper ore, and partly into coal. An attempt has been made to work such a deposit at one locality; but the irregular distribution of these organic remains rendered the undertaking unprofitable. Cupriferous beds of a similar character have been noticed in Russia, where the fossil stems and leaves present indications of copper in the form of oxides and carbonates, distributed through and around them. The same is seen in the Tyrol, and in portions of Germany. In the Spanish Pyrennes, a seam of this character of mineral occurs, eighteen inches thick, and cropping out quite extensively. In 1842-3, this seam was worked as a copper mine, it is said, with profitable returns.

The occurrence of this mineral, under these peculiar conditions, is certainly very remarkable, and is doubtless due to causes similar to those which have produced

THE NEW MINERAL, BRUSHITE.

The discoverer of this new mineral was Mr. W. E. Brown. It was found in gnauo from an island in the Caribbean sea. Its discovery was first communicated to the scientific world about a year and a half ago, by Mr. C. E. Moore, who sent an account of it to Silliman's *Journal of Science*, and therein named it *Brushite*, after the eminent Professor Brush, of Yale College. The mineral is found in the gnauo, in seams or veins, varying from one-eighth to one-fourth of an inch in thickness. It occurs in the form of small but very perfect crystals, of a yellowish white color. When heated in a close tube, before the blow-pipe, it whitens, and at an incipient white heat gives off its water of crystallization. Chemical analysis revealed the presence of lime, phosphoric acid and water, with traces of magnesia and alumina. In the polarizing microscope it showed a vivid succession of colors. We presume that neither the friends of the plutonic or infiltration theories will claim any of the particular minerals alluded to in this article, as having been derived from either of their systems of the origin of mineral veins.

GREEN EMIGRANT, PLACER CO.—Very rich quartz was found in that claim about eighteen months since, and for a time there was much excitement consequent upon the discovery. The drawback, however, was the absence of any well defined ledge. Much work has since been done in the sinking of shafts and drifting from the same, but with unsatisfactory results until last Tuesday, when a drift run forty feet from the bottom of a shaft, about thirty-five feet deep, struck a ledge twenty inches in width, that shows handsomely in free gold.—*Herald*, August 11th.

FAZEN KINDNESS.—The world is full of kindness that never was spoken, and that is not much better than no kindness at all. The fuel of the stove makes the room warm, but there are great piles of fallen trees lying among rocks on the top of the hill, where nobody can get them; these do not make anybody warm. You might freeze to death for want of wood in plain sight of all these trees, if you had no means of getting the wood home and making a fire with it. Just so in a family, love is what makes the parents and children, the brothers and sisters, happy; but if they take care never to say a word about it; if they keep it a profound secret, as if it were a crime, they will not be much happier than if there was not any love among them; the home will seem cold even in summer, and if you live there you will carry the dog when any one calls him "poor fellow."

A BUTTER WORKING MACHINE.

We have long had the aid of machinery for churning the cream in the first process of butter-making; and more recently an ingenious Yankee has given us a "cow-milker," by the aid of which one man can do as much milking as three in the ordinary manner, and do it better, too. It is now announced that an Englishman has invented a machine for separating the buttermilk from the butter, after churning. This slow and laborious process has hitherto been done altogether by hand, and generally very poorly done, as every person in the community can fully testify.

This machine for removing the buttermilk, consists of a hollow metallic cylinder, properly secured and suspended over a bowl of water. One end or head of the cylinder consists of a movable plate, working very much like the plunger in a pump. The opposite head of the cylinder is perforated with a great number of very small holes. After the butter has been placed in the cylinder, a powerful pressure, hydraulic or otherwise, is brought to bear on the movable cylinder-head, which advances gradually to the opposite end of the cylinder forcing, in its progress, the butter through the holes in the stationary head, in the form of very fine vermicelli. By this means the buttermilk is said to be completely excluded from the butter, which is of course left in a condition much sweeter and closer than it is possible to attain by any mere hand process.

It this machine will accomplish what is claimed for it—and we see no reason why it may not—it is of more commercial consequence than would appear at first glance. The great difficulty in making good butter, is to get entirely rid of the buttermilk. All who have had any experience in that part of dairy work, are aware of the almost impossible task of accomplishing that work; and as it has heretofore been exclusively a severe and tedious hand labor, the temptation has been very great to slight it. The consequence is, that our tables are almost universally supplied with a most execrable apology for butter, instead of the sweet, delicious and fragrant substance which constitutes that article in its purity.

Now, if our English cousin has really invented a machine which will give us good butter all the time, he has accomplished a work for which all christendom will thank him thrice a day. Then, as to its commercial value. It forms the last link in the chain of invention which brings almost the entire process of butter-making within the domain of "machine-work." After the cow is milked, which, as we have already said, may now be done by machinery, any horse or mule power, with a little attention, will do all the rest of the work, and with the facility and perfection which is always due to machine work. Instead of depending on hundreds of little dairies, every one of which has its own quality of butter, and the aggregate of which is a horrible compound; the milk will be collected at convenient centers, as it is for cheese-making, or for table use, where it can be churned and "worked" by machinery, and where the work will be cheaply, uniformly and well done. The result of the whole will be a cheaper and better character of one of the most common and indispensable articles of daily table use.

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For Public Administrator:

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For Superintendent of Streets:

GEORGE COFRAN.

For Fire Commissioners:

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For Supervisors:

WARDS.	WARDS.
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3d.....Samuel Drannan	8th.....A. J. Schrader
5th.....Monroe Ashbury	11th.....Albert J. Randall
7th.....Charles Clayton	

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WARDS.	WARDS.
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3d.....W. F. Hale	8th.....A. W. Scott
5th.....W. Ayer	11th.....J. B. Cornwall

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2d.....L. Selinger	8th.....Jacob Beeth
3d.....E. H. Washburn	9th.....David Dwyer
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5th.....B. Vreeland	11th.....O. F. Wiley
6th.....James Riley	12th.....J. Merrill
7th.....W. H. Tompkins	13th.....James F. Neville
8th.....T. McCarthy	14th.....W. H. Davis
9th.....John Banning	15th.....J. P. H. Wentworth
10th.....T. J. Glackeney	16th.....J. B. F. Davis
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3d.....Wm. B. Fairman	8th.....Dr. J. W. Weller
5th.....Michael O'Neill	9th.....Jas. G. Carson
7th.....Frank McCoppin	

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3d.....Peter Daly	8th.....S. B. Thompson
5th.....Dr. J. C. Shorb	11th.....Peter Johnson

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Second Township.....	Cornelius Mooney
Third Township.....	Michael Harkins
Fourth Township.....	Thomas Agnew
Fifth Township.....	
Sixth Township.....	

Address to the Voters of San Francisco

We, the members of the Democratic County Convention, respectfully addressing ourselves to the Voters of San Francisco, claim for the ticket we have nominated your approval and support.

We have succeeded in securing gentlemen of irreproachable character and acknowledged fitness to serve as candidates. In making the selection, we have been careful that schemes for personal aggrandizement and mere political success should not shut out from view the future welfare of the community. The peace of the city, protection to property, and fidelity on the part of the custodians and dispensers of the public moneys, are the considerations which have controlled our deliberations.

We are persuaded that a change for the better can be made in the manner of administering the several Departments of the City Government; and this we believe to be the general conclusion in the public mind.

Whilst it is conceded that much credit was due, for a time, to those who managed our municipal affairs in an independent spirit, it is also contended that more recently they have ignored the former proper tests for official position, and have become mere partisans, intolerant in their views and prejudiced in their action. With this change in the spirit of their government, there has also come extravagance in public expenditures, oppression in their license system, and corruption in the police regulations. Reform is therefore needed in the City Government. This reform can be effected only through the agency of the ballot box. To that end we heartily invite the co-operation of the voters of San Francisco.

Nor should it be forgotten that the result of the approaching election will, to some extent, affect all the social and monetary interests of our city. Moreover, it will exert an important influence on politics throughout the State; and in order that the people may fully appreciate the political significance of the victory we fervently hope to achieve, we shall briefly declare the principles which our nominees adhere to, touching their duties and the great issues of the day.

We pledge them to a faithful discharge of the obligation their election will cast upon them.

We pledge them to an unwavering support of those principles of our Government which assert the supremacy and vindicate the dignity of the white race.

We pledge them to the doctrine of the equality of all of the States of the American Union, and the right of each individual one to determine, under the Constitution of the United States, the qualification of its electors, and to provide for its local prosperity and domestic happiness in its own way; and

We pledge them to a firm adherence to the policy of the National Administration, looking to the defense of these great principles as the only means calculated to heal our differences, to secure for the Government the undivided affection of the people, and to the Union of the States that freedom, prestige and power rightfully belonging to a great Republic; and, in conclusion,

We declare that they approve of the call for a National Convention, and hope that beneficial results may come of its patriotic purpose.

Finally, we beg leave to say that the evasion practiced by the County Convention of the opposite party on these vital questions, is, in our opinion, designed to accomplish a great political fraud; and is trifling with the intelligence of the people and the interests of the State. We condemn as dangerous, ill timed, and characteristic of Radicalism, the letter and spirit of the address put forth by that body. It is but an appeal to the passions of party at a time when those powerful in war and successful in battle should be just and magnanimous in peace.

7v13 By ORDER DEMOCRATIC COUNTY CONVENTION.

DEMOCRATIC NOMINEE!

—FOR—

CHIEF OF POLICE,

P. J. WHITE,

No. 412 Front Street.

7v13-3w

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ESTABLISHED [MAY, 1860.]

VOLUME THIRTEEN

—OF THE—

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SEND US WORD.—If any subscriber to this journal fails to receive the same regularly and promptly, they will con for a favor by informing us at once.

TOWN SCHOOL HOUSES.—God in the country is generous to children. They have all outdoors except the grain field and the tall grass. But in the city, has there been any city provision for their wants? If none has been made for them, then the children must become either trespassers or sufferers. This then, is the reason why every city school-house ought to have a large lot around it. A city boy's farm—where he can carry on with a clear conscience.

THE SPANISH INQUISITION.—The so-called "Holy" Inquisition, at Seville, caused 2,000 heretics to be burned, and 16,000 to be condemned to punishments, which entailed moral degradation and confiscation of property. According to Llorente, the Inquisition, from its origin to its abolition in 1808, caused 31,912 Spaniards to be burnt alive, and condemned 291,450 persons, thus ruining upward of 340,000 persons, whose shame was visited upon their families, for whom naught remained but disgrace and misery.

THE TREE TOAD.—We often hear the croak of the tree-toad, but we do not often see the little animal, for the reason that, like some kinds of lizards, it has the faculty of taking very nearly the color of the limb or bark to which it clings. And when anybody is near, the little fellow is apt to keep quiet, so that his place may not be discovered by his noise. By careful search, however, he may be discovered, keeping a very sharp look-out and a very tight mouth.

KINDLINESS.—The last, best fruit which comes to late perfection, even in the kindest soul, is tenderness toward the hard, forbearance toward the unforbearing, warmth of heart toward the cold, philanthropy toward the misanthropic, charity to all.

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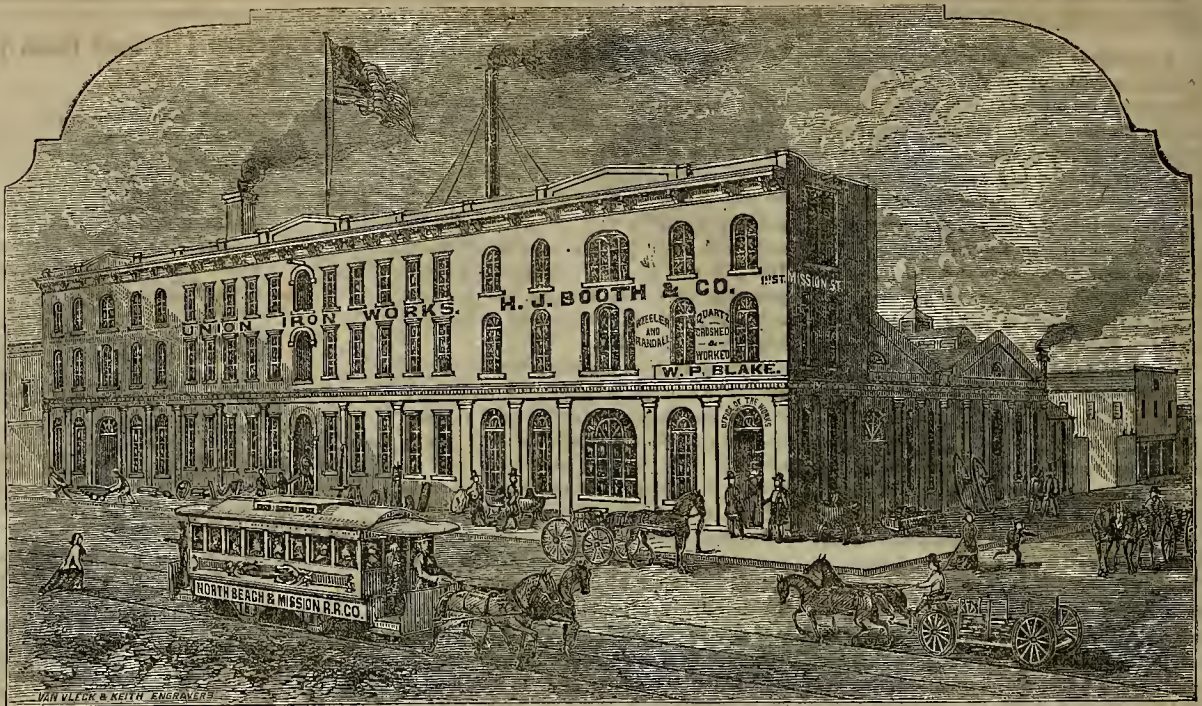
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ENGINES. Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.
BOILERS. Locomotive, Flue, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.
PUMPS. The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's Improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, Oerman Barrels, Arastra Gearing, Chilo Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS,** of all sizes.
OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.
Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.
H. J. BOOTH. **GEO. W. PRESCOTT.** **IRVING M. SCOTT.**
24v12 **H. J. BOOTH & CO.**

Vulcan Iron Works Company

(ESTABLISHED 1850.)
First, Natoma and Fremont Streets.

IRON FOUNDERS,
Steam Engine and Locomotive BUILDERS.

Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of new shops on Fremont Street, doubling the capacity of the original establishment. Their facilities for turning out machinery promptly and efficiently, are now unequalled in the State. Their Boiler Works have also been enlarged correspondingly.

The Company are prepared to execute orders for all classes of Machinery and Boiler Work, such as:

Minag, Steamship, and Steamboat Machinery,
Railroad Machinery, Locomotives, Car Trucks, Car Wheels, Housings and Irons; and
Manufacturing Machinery of Every Kind.

Sole Manufacturers of

HEPBURN & PETERSON'S REDUINO PAN AND AMALGAMATOR
BEATH'S AMALGAMATOR;
HESS & MOORE'S IMPROVED HOWELL QUARTZ CRUSHER;
BAUGH & GUIDO'S AMALGAMATOR AND SEPARATOR;
FAUCHER'S QUARTZ GRINDER AND WATER WHEEL;
JONVAL'S IMPROVED WATER WHEEL;
LEFFELS' AMERICAN DOUBLE TURBINE WATER
STEVEN'S PISTON PACKING RINGS.

They have also a large assortment of Patterns for Pumping and Hoisting Machinery, Gearing, Pulleys, Water Mill Irons, Hydraulic and Screw Presses, Retorts, Furnaces, Grate Bars, House Fronts, Ornamental Fence Posts and Paving, Stove Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best Hard Iron. Quartz Screens of Russia Iron Punched to Order. 27

GEORGE T. PRACY,
MACHINE WORKS,

Nos 109 and 111 Fremont street, near corner of Mission,
OPPOSITE MECHANICS' HILL,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.
Special attention paid to Repairing. 23v12y-3

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST RE-ECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, ear axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v123m

J. F. FLYNN. **HENRY FRANCE.**
FLYNN & FRANCE,
EMPIRE FOUNDRY,

221 Mission street, below Beale, San Francisco, PRACTI-
CAL IRON FOUNDRIES, having unequalled facilities for
the manufacture of **LIGHT FAVOR CASTINGS,** particular at-
tention will be given to this department. We manufacture
School Seats and Desks, Agricultural Implements, Railing,
Ship Castings, State Irons, and all other kinds of Heavy and
Light Castings, with dispatch. The patronage of the public
is respectfully solicited. 24v12y-1y

HANSCOM & CO., (T. PRINDERGAST,
H. S. SMITH.) (W. W. HANSCOM.)

Etna Iron Works!

Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE

STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Re-
quires no springs or screws; is always steam-tight; without
excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and
Amalgamator,

Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,
Giving greater power, at lower cost, than any wheel in use
Send for one of our circulars, giving full tables.

All Wheels warranted to give the power as set forth, or
the money will be refunded.

Sole makers for this coast of the "Pendergast
White Iron Stamp Shoes, and Dies.

None genuine unless obtained from us. Every one war-
ranted.

Patented Machinery of all kinds will be furnished by us
at market prices. Particular attention given to drawings
and specifications of machinery, which will be made to
order. The patronage of the public is respectfully solicited.
19v12

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,
MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Mining
Pumps, Amalgamators, and all kinds of
Machinery.

Nos. 45, 47 and 49 First street, between Market and Mis-
sion street, San Francisco. 24v12y-3

NEPTUNE IRON WORKS,

Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MARINE,
Locomotive,
And all kinds of
HIGH PRESSURE
Steam Boilers

MADE.
All Boilers guaranteed and
tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.

All kinds of Sheet Iron and
Water Pipe, Coal Oil
Stills, Wrought Iron
Worms, etc., etc.
Manufactured to Order.

Old Boilers Repaired
D. CAMERON.

6v12-1y

UNION IRON WORKS,

Sacramento.

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired
with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old cylinders, manufactured
to order.

Front Street, between N and O streets,
14v11 **SACRAMENTO CITY**

SAN FRANCISCO

Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of

Marine and Stationary Engines

Quartz Machinery, Saw, Flour and Sugar Mills, Mining
Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—

Wine, Cider, Cotton and Tobacco Presses
of the latest Improved Patterns.

Brodie's Improved Patent WIND BLAST SEPARATOR,
for Dry Crushing; Baux & Guido's Amalgamator and
Separator; Coal Oil Well Boring Machinery
complete, on hand.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and
Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston
Packing, requires no springs or screws; is always steam-
tight; without excessive friction, and never gets slack or
leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at
the lowest market rates.

6v11-1y **DEVOR, DINSMORE & CO.**

JAMES MACKEN,

COPPERSMITH,

No. 226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best
manner. Particular attention paid to Steamboat, Sugar
House and Distillery work.

Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S

Steam Engine Works,

Scale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,

PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland
navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San
Francisco for the last fourteen years, and enjoys the repu-
tation of having built ONE HUNDRED AND SEVENTEEN
STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery
generally, made to order, and warranted to give perfect
satisfaction in every particular. 24v123m

[Written for the Mining and Scientific Press.]

From the Humboldt Oil Regions.

EDITORS PRESS:—Concerning oil matters I have gathered the following items, by walking sixteen miles, last Sunday, crossing the North Fork of the Mattole thirty times, in water averaging knee-deep:

The Union has resumed work, and on the 14th was 220 feet deep, with usual "indications," but little oil.

The North Fork company are running out their shaft, and have piped 260 feet. The greatest depth attained being 275 feet, at which point the caving began, compelling them to insert pipe from the surface down. Small quantities of oil are obtained each morning from the sand pump.

The Davis well is down 1,040 feet, with not the slightest indications of oil. One of the company has gone to San Francisco to ascertain whether to continue on the claim, or cease drilling. This well is worked by an 8-horse steam engine.

The Jeffrey company are down 660 feet, with no better indication than when you were last advised. This is worked by steam also—6-horse power. Their average is ten feet daily, worked by two men at an average expense of \$300 per month, which they pay promptly, as also does the Davis.

The Allen and Sutter has been attached for the sum of \$111.87.

H. Boyington, who was in charge of the premises, has disposed of what "grub" was on hand, and departed for New River mines, much to the regret of your correspondent. A recent decision of the Land Office has virtually given the title to the land on which their works are located to the McNutt heirs. Thus, one by one, they pass away. Why is it? Simply because a well cannot be sunk 500 feet without a cash capital, at the lowest estimate, of \$7,000 when the work begins. Then the company should pay their employees regularly, and not contract a debt of any nature while the work progresses. Finely engraved certificates of stock will not accomplish the aim, and companies that rely on such for their capital must fail. Foreseeing the result, your correspondent directed his attention to "settling land titles" by *stealing* (squatting on) 160 acres of land, and a cabin. Having several acres of vegetables thriving nicely thereon, he is prepared to "see it out."

The land in this vicinity has at least three claimants. First, the U. S. Government. Second, Col. Wm. Muldrow, claiming all from Cape Mendocino to Point Reyes, some 2,600,000 acres, deriving his claim from the Russian Government, through General Sutter, to whom he says he paid \$60,000 for the deed. Third, "Bulkhead" Persons has covered thousands of acres consecutive with School Warrants and Indiana War Scrip.

Your correspondent, desirous of settling the titles for all interested, holds the quarter section above mentioned—enough, as it stands, to keep the wolves from the door this summer.

Dex.

P. S.—Noble, of Joell Flint company, is expected out on the "next steamer," to resume work at that well.

D.

Petrolia, July 15th, 1866.

[The above communication was a long time on the way to this office.]

A CHILD'S FUNERAL IN MEXICO.—In Mexico and other Spanish-American countries, as also in some parts of Europe, the funerals of children are celebrated with music and the firing of rockets, and with signs of rejoicing rather than of sorrow. The procession is often preceded by a man playing a lively air on a violin. For it is believed literally, as said by Christ of little children, "Of such is the kingdom of heaven," and that to die young secures salvation, as well as escape from the toils and troubles of life. The corpse of the child is covered with flowers, and its little pale cheeks often pointed in imitation of life.

CHINESE WALL.—The most extensive *manu-* structure is undoubtedly the great Chinese wall. It is 24 feet high, and 10 feet wide, and reaches to the extent of from 2,000 to 2,400 miles, over mountains, precipices, and rivers, up to the sea on one side, and the inaccessible mountains of Tibet on the other. The Chinese truly call it one of their wonders of the world—as the stones used for its construction, if placed one beside the other, would suffice to encompass the whole circumference of the globe. The entire history of this construction is wrapped in similar obscurity with that of the Pyramids of Egypt.

DETraction proceeds from envy, and is always pointed at those whom we conceive to be our superiors.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

International Hotel,

JACKSON STREET, BETWEEN MONTGOMERY AND KEARNY STS., SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Terms belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents. 24112 P. E. WEGANT, Proprietor.

INTERNATIONAL HOTEL.

K Street, between Third and Fourth, SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and finely ventilated. No expense has been saved to make it comfortable and pleasant for guests. Price of Rooms very low. Meals, 25 cents. 84123m B. EISENMEYER.

WHAT CHEER HOUSE, SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals, 25 cents. Board, per week, \$1.00. Board and Lodging, per day, 1.00. Single Rooms, 50. Railroad Ticket Office and Stage Office on first floor. 74123m A. J. SENATZ, Proprietor.

Rheumatism!!

READ IT! READ IT!!

SACRAMENTO, April 16th, 1866. H. BOWMAN—DEAR SIR: THIS IS THE FIRST WRIT- ing I have done in two years, and it affords me great pleasure to be able to use my pen in the service of those who are suffering, as I have suffered, by stating the following facts:

I have for two years and upwards been afflicted with CHRONIC RHEUMATISM, and until a few weeks ago I have never found anything that afforded me any relief. For three months of the time I was unable to walk, and for the last five months my arms have been so bent that I have not been able to dress myself. I was five months at the Warm Springs, at San Luis Obispo, and three months at a Hydropathic Institute in Stockton, and I have been under the care of six different physicians, in the vain hope of relief. About four weeks ago I was induced by a person who had been cured by it to try a bottle of RICHARD'S REMEDY FOR RHEUMATISM, and in less than twelve hours I experienced great relief. In a few days I was enabled to straighten out my arms, and I have been getting better and gaining in strength and flesh ever since. I have now the complete use of all my limbs, and, for the first time in two years, I am out of pain. I do feel for those who suffer as I have suffered, and if they will take my advice, they will lose no time in giving the REMEDY a trial. Yours truly, GEORGE TAYLOR.

53 RICHARD'S REMEDY is for sale by

H. BOWMAN, Druggist, Sacramento. 24112

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are among the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

Capitalists, Attention!

QUARTZ MILL & MINING PROPERTY FOR SALE

In Nevada County.

A NEW 8-STAMP QUARTZ MILL, 7 LEDGES AND 640 acres heavily timbered Land, near Eureka, Nevada County, are now offered for sale. The Mill is run by steam power, and is in complete order for business. The ledges, which form the principal value of this property, are all large and well-dipped, but require a further outlay of capital, in order to make them remunerative. For the lack of means to properly develop these claims, the present owners are disposed to sell the same for a reasonable price.

Capitalists wishing to engage in mining will find this a splendid opportunity to purchase a property that will bear right scrutiny, and offers superior inducements as an investment.

For address and further information, inquire of the Publishers of the MINING AND SCIENTIFIC PRESS, 605 Clay Street, San Francisco. 22112

HAYWARD, COLEMAN & CO.,

IMPORTERS AND REFINERS

Illuminating, Lubricating, PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO,—

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

53 A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

53 An elegant and complete assortment on hand. 4113-3m19 414 Front street, San Francisco.

THE CALIFORNIA

Aerated or Unfermented BREAD COMPANY.

Bakery on Folsom Street,

Between Tenth and Eleventh.....SAN FRANCISCO.

MESSRS. TAGGART, BULKLEY & DUFF, HAVING associated themselves in copartnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit all orders for his truly wholesome and cleanly Bread. We have a sufficient number of delivery wagons at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.

Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention:

Order box at C. J. Hawley & Co's Grocery, corner Second and Jessie streets; Rowland & Walker 617 Clay street; Plum's Carpet Store, Montgomery street, opposite Leek House; G. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the above men like-wise. We expect soon to be prepared to supply Pastry, likewise the Boston Brown Bread, and Beans of the first quality. Due notice will be given.

The present Company is entirely independent of the former California Unfermented Bread Company, neither of them having been in any way connected with that company.

We would cordially invite the public to make a visit to our new bakery. 4113-3m S. R. BULKLEY, Business Partner.

Metallurgy.

BOALT & STETEFELDT,

Metallurgists and Mining Engineers

AUSTIN, NEVADA.

Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 14111

G. W. MAYNARD. J. H. TIEMANN.

MAYNARD & TIEMANN.

Mining Engineers and Metallurgists,

240 Pearl street, New York,

—AND— CENTRAL CITY, COLORADO. 19112-14

Copper, Lead, Gold, Silver, Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,

Agent for Townsend Wood & Co., Swansea,

No. 415 Montgomery Street, San Francisco.

53 Special attention paid to Gold Bearing Sulphurets. 15110-3m

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Haskell, for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to JOHN N. KISDON, 24112 At Coffey & Ridsdon's, San Francisco.

MARTIN & CO.,

Office, Stevenson House,

Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE

PURCHASE OF COPPER ORES

Assaying eight per cent and upwards of Copper to the We will make advances upon Ores of Copper. San Francisco, Post Office Box 1239. 22

PACIFIC CHEMICAL WORKS

—AND—

ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of

Manufacturing Chemicals,

Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FALKENAU & HANKS,

Laboratory, corner Folsom and Center streets,

Mission Dolores.

Office, 629 Washington street, San Francisco. 24112-1m

EUROPEAN

—AND—

METALLURGICAL WORKS,

Practical Mining School,

Bryant Street, Between Third and Fourth, SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphurets, pyrites, and the (so-called) "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having then all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

S. P. KIMBALL,

J. R. MURPHY,

10110

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN

ASSAYERS' MATERIALS,

Druggists' & Chemists' Glassware,

Photographic Stock, Etc.

512 and 514 Washington Street,

SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKE & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand. San Francisco March 6, 1865. 11110-14

NAPA CITY, May 9th.—MESSRS. DREW & CO., Patent Agents, San Francisco: Yours of May 7th is at hand. I am pleased to hear of the receipt of our caveat papers at the U. S. Patent Office, Washington, D. C. You have my fullest thanks for your energetic movements concerning the same. Respectfully, yours, W. W. LEVERING.

City College Laboratories,

Southeast Cor. Stockton and Geary sts.

Practical and Analytical Chemistry and Metallurgy.

THOMAS PRICE,
Professor of Chemistry.

(Formerly of the Normal College, Swansea.)
WILL GIVE PRACTICAL INSTRUCTIONS IN QUALITATIVE AND QUANTITATIVE ANALYSIS AND ASSAYING. The course qualifies students for the application of Chemistry to METALLURGY, MANUFACTURING ARTS, and MINING PURPOSES.

PHARMACEUTICAL and TECHNICAL CHEMISTRY, such as is required by Medical and Pharmaceutical Students, will be taught to such students as may require it.

Course of General Chemistry.
Evening Lectures will be delivered every Tuesday, at half-past seven o'clock, P. M., in the Philosophical Hall of the College, without extra charge to the students in the institution.

On and after the 14th of February, the Laboratories will be open every day, except Sundays, from 8 A. M. to 5 P. M. For further particulars, address

REV. P. V. VEEDER,
Principal of the City College.
Or at 406 California Street.

YOUNG MEN WANTED!

Pacific Business College!

751 Market street, between Third and Fourth, SAN FRANCISCO.

AN INSTITUTION DESIGNED TO PREPARE YOUNG and middle-aged men for an active and successful business life.

BOOK-KEEPING, PENMANSHIP, COMMERCIAL LAW, COMMERCIAL ARITHMETIC, CORRESPONDENCE, MODERN LANGUAGES, Etc.,

Practically taught.

This College forms a link of the American Chain of Commercial Colleges.

Located in the principal cities of the United States, and is the only institution on the Pacific coast conducted on actual BUSINESS PRINCIPLES.

Regular Banks and Business Offices have been introduced.

By which we are enabled to fit out Students in the BEST POSSIBLE MANNER, and at the LEAST EXPENSE of time and money, for the practical duties of the Counting House.

Students can enter at any time of the year, there being no vacations. Each student receives individual instruction, with the exception of Lectures and other general exercises.

The College Review, Giving full particulars of the College, can be had FREE, by calling at the College, or addressing

E. P. HEALD,
3v13 President Business College, San Francisco.

SAN JOSE INSTITUTE

Commercial College,

SAN JOSE, Santa Clara County, California.

THE NINTH SESSION WILL COMMENCE ON THURSDAY, July 25th, 1866.
A new, practical and complete Business Course has been adopted, differing from that of any other School in the State. We call the especial attention of Business Men, or those wishing to give themselves a thorough, practical Business Education, to this fact, and request them to send for a Circular before deciding what School they will patronize. Ample accommodations for boarders in the Seminary. Ornamental, Music, Ancient and Modern Languages taught. Special arrangements have been made for boys between the ages of ten and eighteen.

For further particulars or Circular, address
FREEMAN GATES, Principal.
Or, **GEO. E. HOUGHTON, Prin. Com. Dept.**

SACRAMENTO SEMINARY.

BOARDING SCHOOL
FOR YOUNG LADIES,
Tenth Street, between F and G.
SACRAMENTO, CAL.
Session commenced January 8, 1866.

MR. AND MRS. HERMON PERRY,
7v12tf Principals.

SANTA CLARA COLLEGE, S. J.,

SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SIXTEENTH ANNUAL SESSION of this College will commence on

Monday, August 20th, 1866.

TERMS.—Tuition in the Classical and Scientific Department; Boarding and Lodging; Washing and Mending of articles washed; School Stationery; Medical Attendance and Medicine; fuel, light, baths, etc., per session of ten months. \$350.
For further information and catalogues, apply to the President of the College, or to Rev. A. Marschall, S. J., Ignatius College, Market street, San Francisco.
3v11-tau2 **REV. A. MASNATA, S. J., President.**

PREMIUMS.

1st Premium, at Sacramento Fair.....1862
1st Premium, at S. F. Bay District.....1863
1st Premium at Sacramento.....1863
1st Premium, at San Francisco.....1864
1st Premium, for Cordials.....1864
1st Premium, for Hygienic Bitters.....1864

Awarded to
V. SQUARZA.

Its correspondents are men of science and learning, and hail from all parts of the coast. It is published at San Francisco, at \$5 per annum, or \$3 for six months. Address Dewey & Co., publishers of MINING PRESS, San Francisco. [Nye County News.]

AUCTION HOUSE.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 413 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland. off

Professional Cards.

FREDERICK MANSELL.
Mechanical & Architectural Draughtsman,
No. 422 California street, corner of Leidesdorff.

Drawings of Monuments made for parties applying for patents at Washington or London. mar23-tf

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
COURT COMMISSIONER, appointed by the Fourth District Court, COMMISSIONER OF DEEDS for Nevada and Massachusetts.
Court Block, San Francisco.

Entrances opposite City Hall, Merchant street, and 636 14v11tf Clay street.

DR. H. AUSTIN,
DENTIST,
No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER SAN FRANCISCO BATHS]
SAN FRANCISCO. 20v10-qy

DR. D. R. BECKFORD,
OCULIST,
Office of Dr. Beckford's "Golden Eye Water."
16v12-3m NO. 719 CLAY STREET.

AUGUST KUNAST,
Stock Broker,
Member of the
San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
Office, No. 540 Washington Street, San Francisco. 2v10

WILLIAM P. BLAKE,
MINING ENGINEER,
Will make Surveys and Examinations of Mines, or give advice regarding their working, the erection of Machinery, etc.
Office at Union Iron Works, corner of First and Mission streets, or Lock Box 2,977 Post Office, San Francisco. 11v22v1

GEORGE H. BAKER,
Lithographer & Engraver,
No. 522 Montgomery St., San Francisco.
MINING STOCK CERTIFICATES LITHOGRAPHED IN MOST ARTISTIC STYLE. CALL AND EXAMINE SPECIMENS.

SHERMAN DAY,
Mining Engineer,
No. 57 Montgomery Block, San Francisco.
Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines.
22v*

New Mining Advertisements.

Dianna Gold and Silver Mining Company, Lander County, Nevada.
Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of August, 1866, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States Currency, to the Secretary, San Francisco, Cal.
Any stock upon which said assessment shall remain unpaid on the fifth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the second day of November, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.
N. C. FASSETT, Secretary. aul8

Office, 402 Front street, San Francisco.

Eagle Quartz Mining Company.—Location of Works: Amador County, California.
Notices.—There are delinquent upon the following described stock, on account of assessment levied on the eleventh day of July, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount.
J. H. Applegate..... 31 10 10 00
J. P. Bush..... 10 10 10 00
R. J. Bush..... 156 60 50 00
J. A. Carrie..... 66 30 50 00
J. A. Carrie..... 159 20 50 00
J. A. Carrie..... 179 10 50 00
J. A. Carrie..... 183 100 100 00
J. P. Dulp..... 26 10 10 00
J. P. Dulp..... 57 5 5 00
J. E. Damon..... 161 184 184 00
S. R. Harris..... 137 100 100 00
John Hugo..... 144 30 30 00
G. S. Haskell..... 30 10 10 00
G. S. Haskell..... 35 20 20 00
Ira G. Holt..... 135 20 20 00
A. A. Parlow..... 186 5 5 00
Isaac R. well..... 8 25 25 00
T. E. Ruffley..... 29 10 10 00
H. R. Reed..... 166 5 5 00
H. R. Reed..... 168 10 10 00
H. R. Reed..... 184 3 00 3 00
H. R. Reed..... 187 5 5 00
Eli Schell..... 173 25 25 00
R. Williams..... 27 50 50 00

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of July, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the auction rooms of John Middleton & Son, 404 Montgomery street, San Francisco, California, on the fifth day of September, 1866, at the hour of 12 o'clock, M. of said day, to the highest bidder, for cash, in United States gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN M. BURNETT, Secretary.
Office, No. 10 Exchange Building, (718 Montgomery street) San Francisco, California. aul8

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County Cal.—Assessment No. 13.
Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of August, 1866, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, only.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the first day of October, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.
W. D. ROOT, Secretary. aul8

Office, 338 Montgomery street, San Francisco.

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.
Notice is hereby given, that the regular Annual Meeting of the above Company, will be held on MONDAY, September 17th, 1866, at the office of said Company, for the purpose of electing a Board of Trustees, to serve for the ensuing year; also, for the transacting of any and all other business that may properly come before said meeting.

W. D. ROOT, Secretary.
aul8

I. X. L. Gold and Silver Mining Company.—Notice.—The Annual Meeting of the stockholders of the I. X. L. Gold and Silver Mining Company, will be held at the office of the Company, No. 338 Montgomery street, on THURSDAY, September 13th, at 10 o'clock, A. M.

JAMES C. DAYLEY, Secretary.
aul8-4w

Scott Mining and Exploring Company.—Location of Mines, etc., in Humboldt County, State of Nevada.
Notices.—There are delinquent upon the following described stock, on account of assessment levied on the fourteenth day of July, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount.
Scott, E. A..... 15 50 27 50
Scott, E. A..... 112 50 27 50
Scott, E. A..... 125 25 12 50
Scott, E. A..... 161 5 2 75
Scott, E. A..... 162 10 5 00
Scott, E. A..... hal 144 22 12 00
Franklin, W. F..... 43 25 13 75
Bowles, J. M..... 181 25 13 75
Morehouse, Emily..... 156 5 2 75
Bunker, Albert C..... 183 8 4 40
Bunker, Albert C..... 188 2 1 10

And in accordance with law, and an order of the Board of Trustees, made on the fourteenth day of July, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on the fifth day of September, 1866, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

V. B. POST, Secretary.
Office, 1421 Taylor street, San Francisco, Cal. aul8

Segregated Belcher Mining Company, Gold Hill District, Storey County, Nevada.
Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of August, 1866, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twenty-ninth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.
JOHN F. LOISE, Secretary. aul8

Office, 318 California street, San Francisco, Cal.

Teemach Gold, Silver and Copper Mining Company, Gopher District, Calaveras County, Cal.
Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of August, 1866, an assessment of fifty (\$50) cents per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold or silver coin, to the Secretary, CHARLES OSMER, at the office, No. 10 Folson street, corner of Seward street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twelfth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eighteenth day of October, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.
CHARLES OSMER, Secretary. aul8

Office, No. 10 Folson street, San Francisco, Cal.

Assurance Mining Company, Occidental Lode, San Benito Mining District, County of Monterey, State of California.
Notices.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount.
W. F. Brandreth 2 and 18 10 ea \$10 00
W. F. Brandreth 20 20 5 00
W. F. Brandreth 26 30 15 00
O. C. Wheeler 27 150 75 00
Wm. Leflingwell 21 150 75 00
Wm. Leflingwell 22 30 15 00
E. A. Forrester 15 24 12 00
A. J. Weaver 31 30 15 00
Levi Gish 14 6 3 00
Wm. M. Whitney 25 150 75 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of July, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., No. 413 Montgomery street, San Francisco, Cal., on the twelfth day of August, 1866, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. H. RUSSELL, Secretary.
Office, 302 Montgomery street, Room No. 4, San Francisco, Cal. aul8

PATENT BUSINESS.
We have lately associated with us in the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner.
DEWEY & CO.,
San Francisco, June, 1866. Patent Solicitors.

Arizona Consolidated Mining Company, Bureka District, Arizona Territory.

Notices.—There are delinquent upon the following described stock, on account of assessment levied on the third day of July, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount.
John N. Elliot 279 45 1/2 \$22 75
Stephen J. Slade 271 7 1 00
S. Schmitt 202, 250 7 3 50
Stephen Otis 209 150 75 00
George Lewald 33 28 14 00
Thomas Hopkins 64 50 25 00
D. M. Short 208 1/2 25
Geo. Shilliber 180 20 10 00
Frank Clark 180 2 1 00
R. H. Waller 158, 283 84 42 00
John J. Spetchlor 150 5 2 50
O. C. Mitchell 131 5 2 50
Mrs. C. S. Otis 191 5 2 50
J. B. Lynde 278 25 12 50
Mary A. Duncan 216 10 5 00
Jas. B. Moore 265 100 60 00
J. Q. Adams 59 5 2 50
Eva Lange 100 5 2 50
Katharine Lange 99 5 2 50
Elizabeth Lange 98 5 2 50
John R. Dennis 76, 199 25 12 50
Joseph Clark 77 35 17 50
Z. B. Heywood 280 387 1/2 193 75
M. Nolan 228 10 5 00
G. F. Ryland 82 20 10 00
J. H. Miller 173 5 2 50
R. Stuchell 81 5 2 50
Mrs. S. Chapman 80 5 2 50

And in accordance with law, and an order of the Board of Trustees, made on the third day of July, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Messrs. Olney & Co., 413 Montgomery street, on the twentieth day of August, 1866, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEO. W. BUNNELL, Secretary.
Office, 611 Clay street, San Francisco. aul8

Antioch Premium Petroleum Company, Antioch, Contra Costa County, California.
Notices.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-ninth day of June, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount.
Tony Tuttle 25 26 10 \$20 00
Geo. W. McCoy 74 10 hal 10 00
Fredrik Nikkinning 17 3 6 00
D. S. Northrop 88, 84 3 10 00
J. O. Carter, 19, 20, 68, 69, 113 126, 127, 129 35 hal 22 18
Russell Eddy 17, 18 5 10 00
G. H. Seamon 85, 86 5 10 00
M. J. Chase 99 3 6 00
B. B. Gore 52, 53, 54, 55, 56, 57 58, 60, 61, 62, 63, 65 111, 132 50 100 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-ninth day of June, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, corner of Pacific and Battery streets, San Francisco, on the twenty-ninth day of August, 1866, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. B. GORE, Secretary.
Office, corner Pacific and Battery streets, San Francisco, Cal. aul8

"Arbitrios" Mining Company, Batopilas District, State of Chihuahua, Mexico.
Notices.—There are delinquent upon the following described stock, on account of assessment (No. 10) levied on the 28th day of May, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount.
Mrs. Harriet W. Hendley 12 10 \$15 00
Mrs. Harriet W. Hendley 181 3 4 50
A. C. Hendley 13 15 22 50
A. C. Hendley 143 10 15 00
A. C. Hendley 145 5 7 50
A. C. Hendley 150 35 52 50
A. C. Hendley 182 23 39 00
Mrs. D. D. Shattuck 14 10 15 00
Mrs. D. D. Shattuck 183 3 4 50
Chas. F. Schultze 57 5 7 50
Chas. F. Schultze 58 5 7 50
Chas. F. Schultze 60 25 37 50
Chas. F. Schultze 202 9 13 50
R. R. Stoddard 98 3 4 50
R. R. Stoddard 197 1 1 50
R. R. Stoddard 221 10 15 00
Wm. Gildemeister 125 5 7 50
Wm. Gildemeister 180 10 15 00
Wm. Gildemeister 183 15 22 00
Wm. Gildemeister 173 8 12 00
Wm. Gildemeister 227 20 30 00
Wm. Gildemeister 228 20 30 00
Wm. Gildemeister 229 10 15 00
Wm. Gildemeister 234 4 6 00
Wm. Gildemeister 235 66 99 00
Thos. A. Hughes 168 25 37 50
Chas. F. Brown 208 6 9 00
Chas. F. Brown 209 4 6 00
Chas. F. Brown 212 5 7 50
Chas. F. Brown 213 10 15 00
Chas. F. Brown 219 4 6 00
J. N. Willard 243 25 37 50
F. Thomas 246 121 181 50
F. Thomas 247 13 19 00
F. Thomas 248 15 22 50
F. Thomas 249 10 15 00
F. Thomas 250 13 19 00

Total.....554 \$876 00

And in accordance with law, and an order of the Board of Trustees, made on the 28th day of May, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the 13th day of August, 1866, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. MARTINON, Secretary.
Office, 811 Montgomery street, up-stairs, San Francisco, California. jy28

Postponement.—The above sale is hereby postponed until Saturday, 25th August, 1866, at the same hour and place. By order of the Board of Trustees.

A. MARTINON, Secretary.
aul8

Coabertita Gold and Silver Mining Company, Shalona, Mexico.

Notice is hereby given, that a Special Meeting of the stockholders of the Coabertita Gold and Silver Mining Company, will be held at the Company's office, Room 3, second floor, No. 505 Montgomery street, San Francisco, on SATURDAY, the 25th day of August, 1886, at 10 o'clock A. M., at which a full representation of the capital stock is requested. By order of the Board of Trustees.

Jy25

T. W. COLBURN, Secretary.

Cordillera Gold and Silver Mining Company, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1886, an assessment (No. 7) of one dollar per share was levied upon the capital stock of said company, payable immediately in United States gold coin, to the Secretary, No. 321 Washington street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the fifteenth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. R. REED, Secretary.

Office, 321 Washington street, San Francisco, Cal., near Front.

N. B.—Until further notice, all advertisements of this Company will appear in the Mining and Scientific Press, San Francisco, Cal., July 19th, 1886.

Jy21

Caution—Cosala Silver Mining Company.

The following Certificates of Shares in the capital stock of the above-named Company, were sold to pay delinquent assessment and expenses of advertising and sales, on the twenty-eighth day of July, 1886, at the auction rooms of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, at twelve o'clock, noon:

In Name of	No. Certificate.	No. Shares.
Armes & Hallam	557	20
James Jordan	225	6
Michael Scholl	429	6
Michael Scholl	450	10
Michael Scholl	577	30
H H Toland	105	123
H H Toland	122	100

Parties are hereby cautioned against purchasing the above described certificates of stock.

CHAS. BAUM, Secretary.

Office, 510 Battery street, San Francisco. and

Cosala Silver Mining Company, Cosala District, State of Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1886, an assessment of one (\$1) dollar per share was levied upon the assessable capital stock of said Company, payable immediately, in gold coin of the United States, to CHAS. BAUM, Secretary, at the office of this Company, No. 510 Battery street, opposite the Custom House, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the seventeenth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

CHAS. BAUM, Secretary.

Office, No. 510 Battery street, opposite the Custom House, San Francisco, Cal. and

Diamond Copper Mining Company, Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of August, 1886, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to R. B. RASBATT, Superintendent at Crescent City, Del Norte County, or to the Secretary, at the office of the Company, No. 33 Montgomery Block, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COULIDGE, Secretary.

Office, 33 Montgomery Block, San Francisco, Cal. and

Del Norte Comstock Company, Location: Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of July, 1886, an assessment of one dollar and forty-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 331 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary.

Office, 331 Montgomery street, San Francisco, Cal. Jy25

Gold Hill Tunneling Gold and Silver Mining Company, Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 31st day of July, 1886, an assessment (No. 8) of one dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, R. WEGENER, 415 Montgomery street, San Francisco, California, or to the Superintendent, Mr. H. HUGERT, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.

Office, 415 Montgomery street, San Francisco, Cal.

A discount of three (3) per cent. will be allowed on all payments made on the above assessment on or before Friday, the 10th day of August, 1886. By order of the Board of Trustees.

R. WEGENER, Secretary.

San Francisco, August 1, 1886. and

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and its execution entrusted only to experienced and intelligent workmen. Special attention will be given to all orders for Book and Pamphlet Printing entrusted to the Mining and Scientific Press Job Office.

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alterations which may be desired in their advertisements at their earliest convenience. New advertisements should be sent in as early as possible.

Great Central Mining Company, Location of Works: Yuma County, Arizona Territory.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Kellogg, James	174	50	\$50 00
Livingston, H. B.	124	20	20 00
Wheaton, Wm R.	234	40	40 00
Wheaton, Wm R.	239	20	20 00
Wheaton, Wm R.	243	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on the twenty-seventh day of August, 1886, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.

Office, No. 302 Montgomery street, San Francisco. and

Hancom Copper Mining Company, Location: Del Norte County, Low Divide District, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1886, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at 609 Market street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighteenth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. S. SWEET, Secretary.

Office, 609 Market street, San Francisco. and

Kentucky Copper Mining Company, Mm. Fe. District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of August, 1886, an assessment of one dollar per share was levied upon the capital stock of said Company, payable on the third day of August, 1886, in United States gold and silver coin, to the Secretary, at his office, 644 Washington street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the fifth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the tenth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. BAUER, Secretary.

Office, 644 Washington street, San Francisco, Cal. and

Kentucky Copper Mining Company, Calaveras County, Cal.

Notice.—The Annual Meeting of the stockholders of the Kentucky Copper Mining Company, will be held at the office of the Company, 644 Washington street, on WEDNESDAY, the 22nd day of August, 1886, at 8 o'clock P. M.

J. A. BAUER, Secretary.

Office, 644 Washington street, San Francisco, Cal. and

Lady Bell Copper Mining Company, Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of August, 1886, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at 311 Market street, San Francisco, or to G. W. RUSSELL, Crescent City.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

C. HEYWOOD, Secretary.

Office, 311 Market street, San Francisco, Cal. and

Lady of the Lake Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 20th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the twenty-first day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 2d day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 10th day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLIS, Secretary.

Office, No. 302 Montgomery street, Room No. 2, third floor, San Francisco, Cal.

N. B.—By resolution of the Board of Trustees, it was ordered that a discount of three per cent. be allowed on all payments made prior to August 2d, 1886.

WM. HOLLIS, Secretary.

Jy21

Leland Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice is hereby given that at a meeting of the Board of Trustees of said Company, held on the 20th day of July, 1886, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable on the 21st day of July, 1886, in United States gold and silver coin, to the Secretary, at his office in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the 2d day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the 10th day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. HOLLIS, Secretary.

Office, No. 302 Montgomery street, Room No. 2, third floor, San Francisco, Cal.

Lady Bryan Gold and Silver Mining Company, Location of Works: Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of July, 1886, an assessment of one (1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 523 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of August, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the eleventh day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. H. HOWARD, Secretary.

Office, 523 Montgomery street, San Francisco. Jy21

THE MINING PRESS has entered upon its thirteenth volume. It is a valuable publication in its sphere, and its sphere is a large and important one. —[Marysville Appeal.

Nuestra Señora de Guadalupe Silver Mining Company, Toluquilla District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 23rd day of June, 1886, an assessment, No. 24, of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, R. J. PFEIFFER, at the office, No. 210 Post street, or to the Treasurer, A. HUMMELMAN, at his office, No. 617 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the 31st day of July, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the 15th day of August, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. J. PFEIFFER, Secretary.

Office, 210 Post street, San Francisco, Cal. Jy20

North America Tin Mining Company.

Location of Works: Durango, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of May, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bell, G. W. Estate of	87, 75, 101	110	\$50 00
Beyea, J. L.	83, 90, 98	80	34 40
Brown, F. P.	155	25	10 00
Christensen, C.	8	5	2 20
Dwinnell, J. W.	8	100	40 00
Fox, J. W.	69	100	40 00
Haines, Jno S.	174	200	60 00
Proctor, John	88	3	1 0
Simmons, G. L.	71, 140	8	3 20
Washburn, E. H.	112, 143	300	120 00
Wise, Robt N.	115	10	4 00
Miller, J. E.	101	50	20 00

And in accordance with law, and an order of the Board of Trustees, made on the 21st day of May, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, on the 20th day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. THORNE, Secretary.

Office, Room No. 7, at 535 Clay street, San Francisco. and

Old Colony Silver Mining Company, Location of Works: Austin, Reese River, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of August, 1886, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, 523 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the fifth day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary.

Office, 523 Montgomery street, San Francisco. and

Rattlesnake Gold and Silver Mining Company, Spring Valley District, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of August, 1886, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 313 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the eighth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the third day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 313 California street, San Francisco. and

Simpson Mining and Milling Company, Mokelumne District, Alpine County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of August, A. D. 1886, an assessment of thirty cents per share was levied upon the capital stock of said Company, payable by the fourth day of September next, in gold coin of the United States, to the Secretary, at his office, 301 West corner of Front and Jackson streets, up stairs, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fourth day of September next, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the twenty-fourth day of September next, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. BIGELOW, Secretary.

Office, southwest corner of Front and Jackson streets, up stairs, San Francisco, State of California. and

Santa Cruz Petroleum Oil Works Company, Location: Santa Cruz County, State of California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bralley, Patrick	366	10	5 00
Cram, Mrs Elizabeth	701	5	3 00
Craigie, Thomas	718	18	9 00
Dierks, Chas.	614	5	2 50
Himrod, O. W.	50	10	5 00
Himrod, O. W.	61	10	5 00
Himrod, O. W.	62	10	5 00
Himrod, O. W.	64	10	5 00
Himrod, O. W.	66	10	5 00
Hardy, Dr Beni F.	237	7	3 50
Klein, S. S.	744	10	5 00
Langdon, Dr Samuel	173	20	10 00
Langdon, Dr Samuel	175	20	10 00
Langdon, Dr Samuel	222	50	25 00
Langdon, Dr Samuel	342	11	5 50
Meder, Mrs Sarah D.	91	1	5 00
Meder, Mrs Sarah D.	92	2	1 00
Meder, Mrs Sarah D.	93	1	5 00
Meder, Mrs Sarah D.	253	1	5 00
Moore, J. H.	325	30	150 00
Russell, Mrs C.	20	20	10 00
Reichert, J. A.	20	10	5 00
Reed, H. R.	730	25	12 50
Slocum, W. N.	490	62	31 00
Sheldon, J. P.	732	30	15 00
Sheldon, J. P.	733	20	10 00
Winship, E.	330	6	3 00
Winship, E.	325	25	12 50
Winship, E.	326	25	12 50
Winship, E.	324	25	12 50
Winship, E.	323	100	50 00
Winship, E.	322	50	25 00
Winship, E.	327	12	6 00
Winship, E.	628	15	7 50
Wertheimer, L.	742	25	12 50
Zimmerman, J. A.	799	30	15 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Cobb & Sinton, 407 California street, San Francisco, on Tuesday, the twenty-eighth day of August, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. WEGENER, Secretary.

Office, 415 Montgomery street, San Francisco, Cal. and

San Marcial Silver Mining Company, Location of Works: San Marcial, District of Hermosillo, State of Sonora, Mex.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-seventh day of June, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Cabellero, Auguste	14	3	\$ 1 50
Curtis, H K	128	5	2 00
Goddard, P R	215	10	5 00
Helm & Co., Herman	264	10	5 00
Lansing, James	202	20	10 00
Lansing, James	310	3	1 50

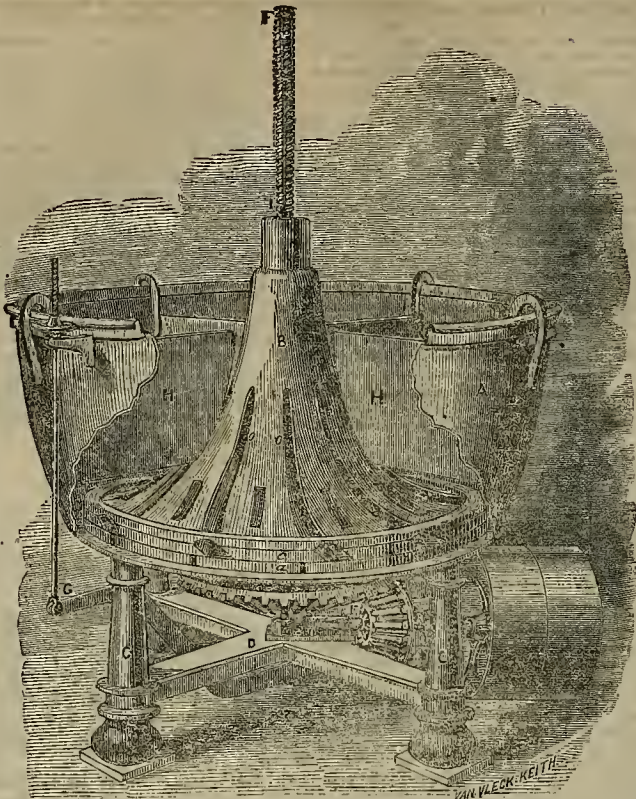
THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132. That is, the respective millers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time. The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be. Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been burnt. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior." As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE Union Iron Works and Golden State Iron Works, WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.

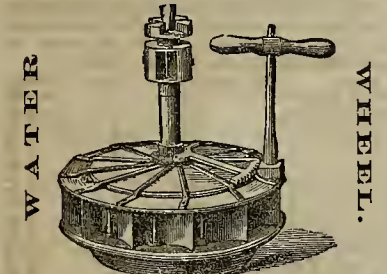


Machinery. VARNEY'S PATENT AMALGAMATOR. These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits. They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated. Setters made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed. Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

LEFFEL'S American Double Turbine



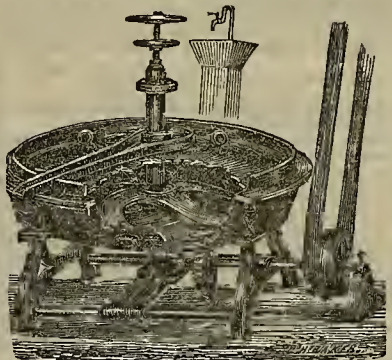
THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in mill-race or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to KNAPP & GRANT, San Francisco.

Leffel's Lever Jacks, For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by 12 1/2-3m KNAPP & GRANT, San Francisco.

The Hansbrow Pumps ARE WARRANTED THE BEST.

FIFTEEN KINDS AND SIZES, Adapted for FARM, Mill and Mining Purposes. Fitted for HAND, WIND, HORSE, WATER AND STEAM POWER. For sale in every city and town on the Pacific Coast. LOCKE & MONTAGUE, Agents, 112 and 114 Battery Street, San Francisco. Send for Illustrated Catalogue. 3v12-2m

BAUX & GUIOD'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1864, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine SCIENTIFIC KNOWLEDGE WITH PRACTICAL EXPERIENCE, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings. The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIOD'S Pan, are the following: The trifling cost for attendance. Its small cost; its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping, as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the trifling power required to work them; They can be attached to any ordinary crushing apparatus. We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jeffersonian Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Crall's Gravel Cement Works, Nevada county; Wattman's Chlorination Works, Nevada, Cal.; Gold Hill Quartz Mill, Washoe.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hugh & Thom's Foundry, Nevada City. For further particulars, or to see this Pan in operation, call on or address J. B. BAUX, 478-64f Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco.

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

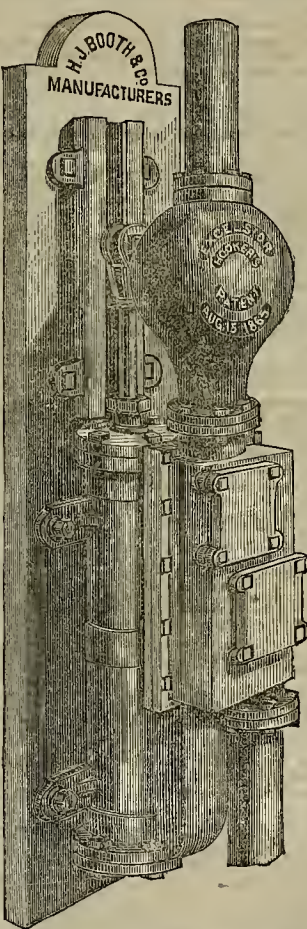
MANUFACTURED BY THE ITHACA CALENDAR CLOCK COMPANY, Ithaca, N. Y., and for sale by W. J. EGBERT, Agent, At JOA M. SEAMAN & Co's, 631 WASHINGTON STREET, San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock, the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the Mining and Scientific Press. 2v12-14f

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed in this country for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 19v12

EXCELSIOR PUMP!



THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufacturers, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State. J. W. BRITAN & CO., General Agents, 120 Front street, San Francisco. 2v12-3m Send for Price List.

STODDARD'S CELEBRATED WATER FILTERS!

PURIFY RAIN, RIVER, OR SPRING VALLEY WATER. Perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by S. B. STODDARD, Corner of Battery and Pacific streets. 2v12-3m June 23, 1866.

Union Amalgamator.

This Valuable Invention. IT'S FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores. It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner. Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation. Gold and silver ores tested by regular mill process, at moderate cost, by STRONG & CO., San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention. 19v12-3m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A PREMIUM SILVER MEDAL BY THE The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere. The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada. Parties wishing to erect such Furnaces, are requested to leave their orders with T. KALLENBERG, 416 Market street, San Francisco. 19v12



FLORENCE SEWING MACHINES!

COPY OF THE REPORT OF THE COMMITTEE OF AWARDS AT THE FAIR OF THE AMERICAN INSTITUTE, New York, 1865, TO THE Florence Sewing Machine Company, FOR THE BEST FAMILY SEWING MACHINE.

HIGHEST PREMIUM—GOLD MEDAL!

REASONS: 1st.—Its simplicity and great range of work. 2d.—The Reversible Feed Motion. 3d.—The perfect finish and substantial manner in which the machine is made. 4th.—The rapidity of its working and the quality of the work done. 5th.—The Self-adjusting Tension.

The "FLORENCE" was awarded the First and Highest Premium at the State Fair of California, the only Fair on the Pacific Coast at which any two double-thread Sewing Machines were exhibited in competition in 1865.

The "FLORENCE" received the only premium awarded by the Mechanics' Institute of San Francisco, in 1864 and 1865, to any Sewing Machine, Sewing Machine Company, or Agent. The claim of a competitor to a medal is without any foundation whatever.

Wherever the "FLORENCE" has been brought in competition with other Sewing Machines, it has always been declared the best. It is the most simple, the most substantial, the most efficient, and its use is easily learned. Every Machine sold is guaranteed in the full sense of the word.

Send for Circulars and Samples of Work.

SAMUEL HILL, General Agent, 20-12-14w 111 Montgomery street, San Francisco.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by THOMAS H. SELBY & CO., 2v12-3m Nos. 116 and 118 California street

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. One to three-ply Hose made. All orders punctually attended to. S. HOWARD, 326 Davis street, San Francisco.

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

The Great London vs. the Great San Francisco Earthquake.

London is not generally considered as lying within the limits of the earthquake region, and probably there are few of our young readers who are aware that it was once visited by a shock far more severe than the one by which the inhabitants of San Francisco were so much alarmed in October last. We have just come across a very vivid description of the Great London Earthquake, in a delightful book entitled "The Diary of Kitty Trevylyan." As we are sure the account will prove interesting to our readers, we give it in full. The event took place on the 8th of March, 1750. The description is as follows: "On Friday morning, March the 8th, I was started out of my sleep in the early dusk, before dawn, by a heaving and a jarring, which made me think, in the confusion of waking, that I was at sea again with father and Hugh, and that the ship had struck against a rock and was grating over it. I sprang up instantly, with a vague fear of drowning; but I shall never forget the horror of utter helplessness which followed, when I perceived that it was Aunt Henderson's great crimson-damask four-post bed which was thus tottering, and that it was the gigantic polished oak wardrobe whose doors were flying open, and the familiar white jug and basin which were rattling in that unaccountable way against each other. It flashed on me at once that it was the earth that was moving, and the solid earth itself that was heaving like the sea! My first impulse was to throw myself on my knees by the bed-side; then I committed myself to God, and felt there was something yet that could not be moved! Then followed another shock and jarring motion, the fire irons rattled, the water jug fell and was broken, the wardrobe tottered and strained, and there seemed something more awful in the unwanted noise among these familiar things than there would have been in the roar of a cannonade, or any other strange sound. But besides these noises, and through, and behind, and underneath them, came a low, distant rumble like thunder, which yet was not thunder; not above, but beneath, it seemed quivering through the earth. I sprang to my feet, and wrapping myself in my great cloak, rushed out to mother's room. The frightened servants were already gathered on the landing, crying that the end of the world had come, and wringing their hands and wondering what would become of mistress, who was gone to the early prayers at the Foundry. Uncle Henderson appeared in a night-cap and blanket, and then father in a military great-coat. All had rushed together with the instinct of frightened cattle. No one had thought of striking a light. I crept to mother's bed-side, and kneeling down, pressed her hand in both mine. 'My darling,' she said, 'I am so thankful we are together, * * * for mother thought, like most of us, that the end of the world was come.

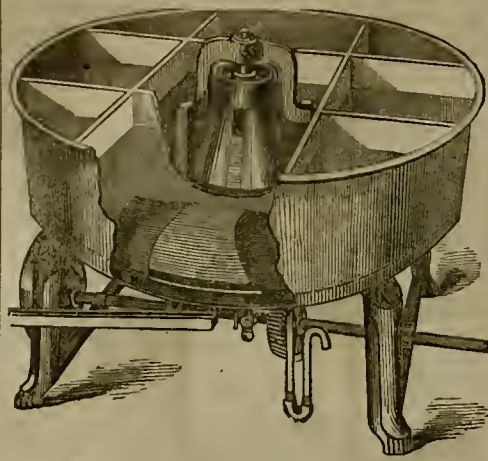
Another shock, and jar, and rumble, of that awful underground thunder, and then a fearful crash above us, and a piercing shriek from all outside, with sobs and cries of 'Lord have mercy on me.' Another crash, and another burst of shrieks and sobs. Then there came a stillness, and a hush in the voices outside, and through the silence we heard the wind rustling in the tall elm tree close to the window, and saw that the dusk was slowly creeping into dawn. * * * No messenger after another continued to arrive with accounts of the tottering walls and falling chimneys they had seen, and with wild, incoherent rumors of the ruin and destruction of which they had heard. * * * The chimneys were crashing through the roofs in Great Ormond street, the tiles raining like hail on the pavements, the people shrieking and crying, the streets full of flying coaches, with men on horse-back."

The scene at the large church, where Charles Wesley, one of the great founders of Methodism, was preaching at the time, is thus described: "The walls were shaken so violently that they all expected the building to fall on their heads. A great cry followed, and shrieks of agonized terror. But Mr. Charles Wesley's voice immediately arose calmly above the tumult, saying: 'Therefore will we not fear, though the earth be moved, and the hills be moved into the midst of the sea; for the Lord of Hosts is with us, the God of Jacob is our refuge.'"

This occurred over one hundred years ago, and London has never since been visited by any considerable shock. It may be as long a time before San Francisco will have another "Great Earthquake" to record.

THE RING OF CHEOPS.—One of the most remarkable curiosities, perhaps, in the world, is the Ring of Cheops, which, it is with no small degree of satisfaction we can say, remarks an exchange exists in an American collection accessible to all. Cheops was the builder of a pyramid that bears his name, and as if to make the structure bear his name ineffaceably till its component parts had all crumbled into dust, the very stones and bricks now stamped with his name. And yet he lived 2,450 years ago, and his colossal works were old when ancient nations flourished. The boy Joseph, led a slave to the banks of the Nile, looked up in wonder at them; Moses and the Israelites drew a breath of relief as they receded from their gaze. Yet here we possess the signet-ring of this mighty monarch. It was the crowning prize of Dr. Henry Abbott's life of research in Egypt. The style of the hieroglyphics is in perfect accordance with those in the tombs about the Great Pyramids, and those within the oval comprise the name of Cheops. The details are minutely accurate and beautifully executed. The ring is of the finest gold, and weighs nearly an ounce. This remarkable antique was found at Ghizeh, in a tomb, and now lies among the treasures of the Abbott Collection in the Museum of the New York Historical Society.

Knox's Improved Patent Amalgamator and Separator, With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of
1413 p124
At the Golden State Iron Works, No. 19 First street, San Francisco.

Eyes! Eyes!! Eyes!!!
DR. HENLY, Oculist and Aurist, has received from Scotland one of the most miraculous remedies for the benefit of the human eye ever before discovered. It is unparalleled in its effects upon the diseases incident to this organ. It gives wonderful power to the optic nerve, and removes all the granulations from the lids, and all mucous film from the sclerotic coat without the use of instruments. In fact, it works like a charm on the eye, without giving any pain. You feel the effect of the medicine in different parts of the head. It drives the disease back into the system, which is better able to stand it than this tender organ.
Why will you suffer when you can be cured in a few days. Persons who have been blind for ten years have been restored to their sight in a short time by the use of this medicine. I will treat any person's eyes in the State, and I do not give them relief in a short time, I will not charge them anything. Office, No. 751 CLAY STREET, opposite the Plaza, San Francisco.

NEW YORK PRICES.
WATCH REPAIRING AT NEW YORK PRICES.
C. E. COLLINS,
No. 603 Montgomery street, San Francisco.
EXCLUSIVE AGENT
—FOR THE—
AMERICAN WATCH FACTORY.
A large assortment of these
Superior Watches,
In Gold and Silver Cases,
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Imported directly from the Manufacturers.
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ANNUAL REPORT OF THE Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 23, 1850, the Pacific Insurance Company of San Francisco makes the following Annual Report:
I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD.....\$750,000
II.—The amount of the Assets is ONE MILLION AND FIFTY ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS..\$1,051,420.37
III.—The Company has NO DEBTS
IV.—The amount of insurance effected during the year, and which remained in force December 31, 1865:
Fire.....\$12,973,949
Marine.....481,408
This Company commenced underwriting Marine Risks, August, 1865.
V.—This Company insures against the following risks, viz.: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLD, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.
Also, on CARGOES, TREASURES, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL NAUTICAL AND LAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.
VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$5,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.
J. HUNT, President.
A. J. RALSTON, Secretary.
San Francisco, January 19, 1866.
Louis McLane, Edward Martin, A. Hayward,
W. C. Ralston, Chas. Mayne, T. L. Barker,
A. L. Tubbs, Moses Ellis, Alex. Weill,
William Alvord, E. L. Goldstein, C. Meyer,
Frederick Billings, Wm. T. Coleman, J. D. Fry,
Jonathan Hunt, John O. Earl, M. Rosenbaum,
A. B. Forbes, Lloyd Lewis, H. H. Biehn, Jr.,
Anson G. Siles, Geo. W. Beaver, T. Lemmen Meyer,
Abm. Sellman, Adam Grant, Edgar Mills,
L. B. Beechley, Alpheus Bull, G. W. Wilson,
Wm. Sherman, D. J. Oliver, C. T. Wheeler,
L. Sachs, William Scholle, Marysville,
Jas. De Fremery, Morton Chessman, J. H. Jewett,
John E. Bray, H. Hansmann, Stockton,
David Stern, D. W. C. Rice, T. R. Anthony,
D. O. Mills, Oliver Eldridge, Portland, Oregon,
J. O. Kelleys, E. W. Leonard, W. S. Ladd,
G. H. Howard, S. Steinhart, Jacob Kamm,
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H. M. Newhall, Wm. Hooper, Wm. Sharon.
G. T. Lawton, Alfred Borel, A. J. RALSTON.

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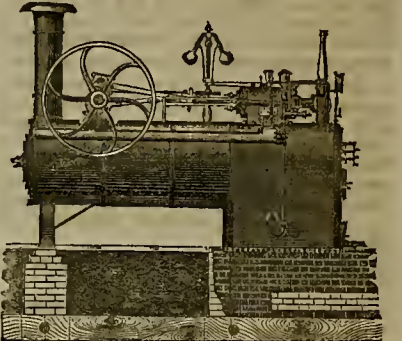
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C. T. Meader, Stockton; Geo. K. Gluyas, Chief Engineer of Cal. S. Nav. Co., San Francisco.
Jacob Underhill & Co., San Francisco;
J. W. Stowe, Russell & Erwin Manufacturing Company; Office, No. 120 Front street, San Francisco. 4v12

Portable Steam Engines!

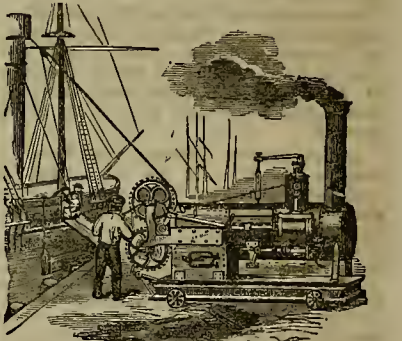
"Hoadley's" and "Hittinger's" Make.



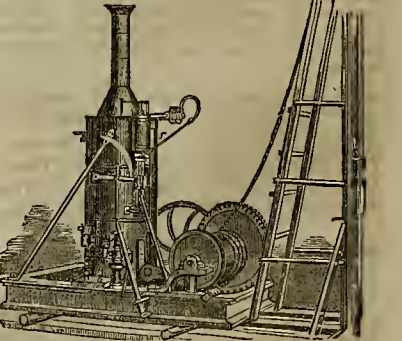
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FOUR SIZES,
8, 10, 12, and 15-Horse Power,



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3 to 40-Horse Power.



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THREE SIZES,
5, 7, and 10-Horse Power!



HITTINGER'S.
TWO SIZES,
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These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes.
Steam can be set up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises) in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.
All sizes on hand from 3 to 30 horse power, with and without carriages.
Also, Portable Saw and Grist Mills.
For sale by
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Corner of Front Market and streets.

NEW PATENTS.

CALIFORNIA INVENTIONS.

PROCESS FOR HARDENING WOOD.—We understand that certain parties in this city have discovered a process for hardening wood which, if it accomplishes all that is claimed for it will prove of great value. It is said that by this process any ordinary soft wood can be made durable and almost as hard as the hardest stone, and capable of receiving a high polish. If such a discovery can be fully realized, and made economically practicable on a large scale, it will present wonderful advantages in ship building, pile driving, and in material for pavements. The blocks of wood thus treated may be laid down without any further preparation, and will present a surface of the durability and hardness of iron. It is expected that operations will be commenced shortly, as soon as the proper apparatus can be secured.

QUARTZ STAMP MILL.—Alex. Herdlein, Egan Canon, Nev.—This invention consists in the arrangement of double-armed levers, the long arms of which are about ten times longer than their short arms, in combination with the stamper and with suitable cranks or eccentrics on the driving shaft, in such a manner that, by the assistance of the double-armed levers, the operation of raising the stamper is facilitated and the number of blows of each stamper can be increased almost to any desired number per minute without danger of having the wipers come in contact with the descending tappets.

QUARTZ CRUSHER.—John T. Boanell, Columbia, Cal.—This invention relates to that class of quartz crushers which are provided with rising and falling weights, pounders, or stamps, and it consists in a novel and improved means for operating the weights, pounders or stamps, whereby the machine may be worked by hand with a very moderate expenditure of power.

OTHER PATENTS OF GENERAL INTEREST RECENTLY ISSUED.

WATER ELEVATOR.—J. C. Barrett, Stamford, Conn.—This invention consists in a novel application of the "lazy tongues" system of levers for elevating water for domestic use, and it consists in the means employed for actuating the system of levers and in the means for tilting the bucket.

DESULPHURIZING GOLD AND SILVER ORES.—Anthony L. Fleury, Pittsburg, Pa.—I claim, 1st. To treat sulphurets containing gold and silver in the way and for the purpose specified. 2d. The compound obtained, denominated as metalliferous coke, when prepared as above specified.

QUARTZ CRUSHER.—Thomas Shaw, Philadelphia, Pa.—I claim the employment of metal balls secured by chains to a revolving wheel, the whole constructed and operating for the purpose described.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents.

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CARRIAGE TRIMMERS.—Moore & Crego, corner of Battery and Market streets, in the Oriental Hotel Building, are ready at all times to attend to the Trimming of Carriages of all descriptions, and hope, by strict attention to business, to merit a share of the public patronage. Particular attention paid to repairing. This is the only establishment in the city that attends exclusively to the above business.

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Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

By MAIL.—The MINING AND SCIENTIFIC PRESS will be sent by mail to any part of the civilized world. In case of removal, subscribers have only to inform us of the post-office address of their old and new location, and the paper will be sent accordingly.

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The above Reward will be paid to any one who will produce evidence of a failure of any of HENDY'S IMPROVED SELF-DISCHARGING CONCENTRATORS, Patented February 27th, and April 17th, 1886—which said amount is deposited for 60 days with Palmer, Knox & Co., No. 19 First street, San Francisco.

June 23d, 1886.

J. HENDY, Patentee.

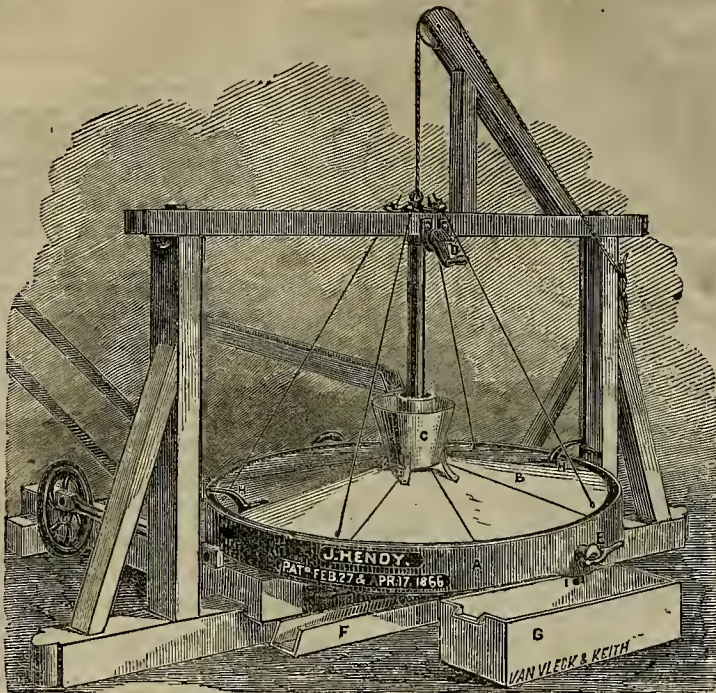


Figure 1.

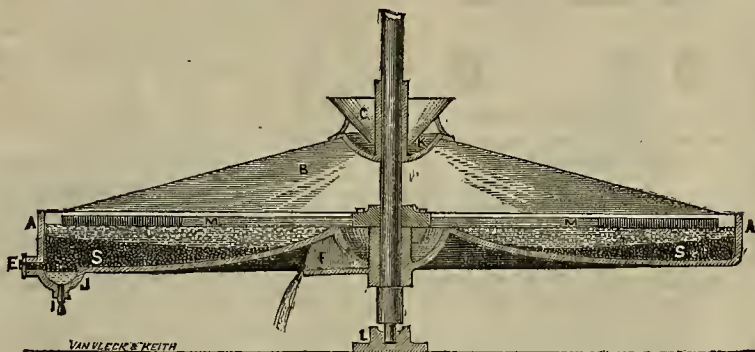


Figure 2.

Hendy's Improved Patent Self-Discharging Sulphurets

PRATER CONCENTRATOR

Is Receiving Universal Favor.

Reference is made to the following Mills which have them now in use:

BENTON MILL, Bear Valley, Mariposa County.
LOUISIANA MILL, near Conterville, Mariposa County.
OPHIR MILL, near Newcastle, Placer County.
C. H. SCHAEFER'S MILL, Doty Flat, Placer County.
CONY MILL, Jackson, Amador County.
SPRING HILL MILL, Amador, Amador County.
GOLDEN GATE MILL, Volcano, Amador County.
RAWHIDE MILL, Jamestown, Tuolumne County.
TRIUMPH C. & S. M. CO., Lower California, Mexico.

And in use in many other parts of this State; also in Idaho, Arizona, Colorado and Mexico. As a further evidence of its worth, orders have been received recently from the proprietors of the following mills, all of whom are using these Concentrators, or have works in the immediate neighborhood of mills using them, viz: One Concentrator for the Ophir G. & S. M. Co., near Newcastle, Placer County, ordered by Welty & Foster, who are using two Concentrators; one Concentrator for the Benton Mill, Mariposa County, ordered by Messrs. Dodge & Bro., of this city, who are using seven of them in the same Mill, one Concentrator, ordered by Messrs. Bigelow & Bro., of this city, for the Cony Mill, Jackson, Amador County, where they have already three of them in operation. They may be seen in operation at the GOLDEN STATE FOUNDRY, No. 19 First Street, San Francisco.

DESCRIPTION:

FIGURE 2 is a sectional view. C, is the Hopper in which the tailings are thrown. The tailings then distribute on the Distributor, B. The tailings enter the pan, A, at its periphery, and the debris discharges near its center, and passes off in the spout, F. The sulphurets discharge at gate, E, amalgam and quicksilver at plug, I. J, is a horn-shaped cavity for collecting quicksilver and amalgam. S, is the sulphurets. M, M, the agitating bars, with copper plate, coated with mercury. The agitating bars operate on top of the pulp. They are acknowledged to be, by those using them, a valuable improvement. [An extra charge of \$15 is made when these bars are furnished.] The pan, A, shows a curve-linear bottom, which gives a more precipitous descent near its center, for the purpose of forcing the sulphurets towards the periphery. It will be noticed that the centrifugal force diminishes towards the center of the pan, for which reason the inclination is increased for the purpose above mentioned.

The pan, A, has an inclination at its periphery, towards the gate, E, for the purpose of forcing the sulphurets to the discharge gate. At the same time the center rim is level; the sulphurets, S, being forced by the oscillating motion of the machine, and are discharged through a small opening in the pan at gate, E.

JAMESTOWN, TUOLUMNE COUNTY, CAL., July 18th, 1886.
JOSHUA HENDY, Esq., San Francisco:—MY DEAR SIR: It gives me pleasure to inform you that the four "Improved Self Discharging Prater Concentrators," which I purchased from you, have now been in operation in the Rawhide Mining Company's Mill for more than two months, and have more than realized my expectations. I am free to say it is the best Machine for saving Quicksilver, Amalgam, and Sulphurets that I have ever used or seen used for that purpose. I shall take pleasure in showing any one interested the Machine in operation, who will call at the mill. I shall need four more as soon as the balance of our mill is completed. Yours truly,
R. P. JOHNSON, Superintendent Rawhide Mill Company.

A Circular giving further particulars will be mailed to any part of the United States free of expense. Address,
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SAN FRANCISCO, SATURDAY, AUGUST 25, 1866.

VOLUME XIII.
Number 8.

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THE RECENT EARTHQUAKE.

INDICATION NOTED BY PROF. BLAKE, AT OAKLAND.

EDITORS MINING AND SCIENTIFIC PRESS:—The earthquake shock of last Sunday morning, about twenty minutes before one o'clock, was so peculiar in its character at Oakland, that I think it worthy of a note in your journal. It was different from any of the earthquakes I have before experienced, being more like an explosion, accompanied by a distinct sound or concussion of the air. It appeared to come from the southeast corner of the house, and the first impression was that a heavy object had fallen upon the floor, and next that a large gun had been fired. It was much like the sound of a blast in a mine when heard above the surface. The concussion was so marked that no notice was taken of the motion of the house. I was standing at the time facing the north, and at once turned around to see what had fallen. It does not appear that any sound was heard by persons in San Francisco.

I am certain that this earthquake proceeded from a subterranean explosion; and that, like most of our earthquakes, it was comparatively local, the explosion not being at a very great depth below the surface.

August 23d, 1866. W. P. BLAKE.

THE HAGAN ROASTING FURNACE.—The Pacific Ore Company, of this city, have in operation at Grass Valley, Nevada county, a large roasting furnace on the Hagan plan, which is said to be a success. The furnace is of fifty tons capacity, and is expected to desulphurize ore at the rate of twenty tons per day. The furnace has been used several weeks, and we are informed that no difficulty is found in amalgamating the gold from the most refractory sulphureted ores, after they have passed through this furnace.

SINGULAR MINERAL DISCOVERY.—At Black Hill, Mariposa county, W. G. Hildy has recently discovered a very singular mineral formation, said to consist of small veins of asbestos averaging about an inch in thickness, mixed with clay, and running through a black serpentine rock. The most singular part of this discovery is that these thin seams of asbestos are rich in gold.

STATE AGRICULTURAL SOCIETY.—J. W. Winans, Esq., has been selected to deliver the annual address before the State Agricultural Society at the ensuing State Fair at Sacramento. Dr. D. J. Macgowan, long a resident of China, and now on his way to that country as agent of the East India Telegraph Company and delegate of our State Agricultural Society, will also deliver a lecture before the Society on "Oriental Agriculture"—probably on Friday evening of the Fair week.

SAN FRANCISCO MECHANICS EQUAL TO ANY EMERGENCY.

The locomotive, A. A. Sargent, built by Booth & Co., of the Union Iron Works in this city, on Monday last made its regular trip with the passenger train, from Sacramento to Alta, a distance of 70 miles, on the Central Pacific Railroad, in the short time of two hours and thirty seconds—for all practical purposes we may call the trip two hours, or 35 miles per hour. When we call to mind the fact that for two thirds of the distance this road is climbing directly up the flank of the Sierra Nevada, much of the distance at a grade of from 100 to 116 feet to the mile, and often on curves of 500 feet radius, we may well be astonished at the power performed. If we take into account the peculiarity of the duty, we doubt whether any superior work has been recorded of any locomotive, in any part of the world. There are several Eastern-built locomotives on that road, but this San Francisco built machine is the only one which has ever been able to accomplish any such work as is here recorded.

Our San Francisco mechanics have more than established a reputation of equal skill with the artisans of any part of the world, in whatever they have attempted competition. A few years ago the idea of making this a manufacturing city was scouted as simply ridiculous; now there is scarcely anything which enters largely into consumption here, which experience has not fully proven we can produce, and that as cheaply and as skillfully as any other people. Originally there was no reason why any of the great manufacturing cities of the Atlantic States or of Europe should become such. None of them command any special advantages of position. They owe the origin of their importance rather to the indomitable will and skill of their founders, who sought to remove unfavorable obstacles of position by the artificial aid of railroads, steam, canals, etc., which might be employed to bring them into more convenient communication with the great commercial centers from whence they draw the raw materials for their manufactures, and to which the results of their labor are returned for a market. It is on this account that such cities have generally become the center of diverging roads of iron and steam, which insures to them a permanency of population and an increasing flow of wealth.

San Francisco has none of these obstacles to overcome. Situated directly upon the great high road of commerce between Eastern Asia and the entire continent of North America and of Western Europe, and forming the converging and diverging point of the entire system of interior and exterior intercourse, she has but to place herself in a proper position to enjoy and reap the benefits of the vast business which will naturally pour itself into her lap. To enable her to do this her enterprise and liberality has drawn around her the best engineering and mechanical skill of the world. That skill has made itself apparent, wherever and whenever it has been called into exercise. Under its magical influence numerous branches of industry have already grown into respectable importance; and it has been proved by actual experiment that all kinds of heavy machinery,

whether for extracting the precious metals from our golden rocks and sands, for climbing up the steeply graded iron track of our mountain railways, or for propelling floating palaces along our inland waters, can be made here as cheap and as well as at any locality; while at the same time it is infinitely better adapted to our peculiar wants than any which can be imported from either the Atlantic States or England.

Nothing ever comes amiss. Whenever our mechanics have been called upon to produce a machine to meet any industrial want, they have always succeeded. We may instance particularly the diverse character of locomotives required for the various uses on this coast, as exemplified in the tractive power of the A. A. Sargent on the steep grades of the Pacific Railroad; the lighter locomotives constructed for the level grade and the light work of the Alameda road, and the still more peculiar work of applying steam power to cutting down our sand hills and filling up the irregularities of the naturally rough surface upon which our city is built. In all the multifarious applications of mechanical skill which our mechanics have been called upon to devise, they have proved themselves fully equal to the call which has been made upon them; and have shown to the satisfaction of capitalists that there need be no blank on this coast in the whole round of the world's manufacturing products.

FROM PAHRAAGAT.—Mr. S. B. Pike, the inventor of the Little Giant quartz crusher, has just returned from the Pahraaagat mining district, Nevada, from which he brings highly favorable accounts. Mr. Pike spent some two months there, and examined all the principal ledges of the district which have been opened. He assayed ore from some thirty of the ledges, selected in every instance from average samples. These assays run from \$4 to \$2,248—averaging \$364.93—all surface ores. There are two systems of ledges, an east and west and a north and south system. The latter are very large and rich, while the former are mostly small. The ore generally shows copper, either as a carbonate or glance. The country rock enclosing the veins is a magnesian limestone, flanked on the east and west by massive cropings of barren quartz. The entire area upon which the mines are located is not more than four and a half miles long by an average of one mile in width; outside of which nothing worthy of note has been discovered. These mines are located about eight miles east of what is known as the Pahraaagat Valley. The principal mines of the district are the Illinois, Santa Rita, Nevada, Webster, Lillie and Jessie, Utah, New Hampshire, and Ourang Outang. There are many others which will doubtless prove valuable mines. There will be a 5-stamp mill in operation there within two months. A 10-stamp is now on its way thither.

QUICKSILVER, in a pure state, has been found at Leech River, British Columbia. After one day's sluicing a company found one pound and a half in their boxes.

THE SATURDAY ADVERTISER, just started by C. L. Yates, San Jose, is a neat little sheet. Its publication is a practical idea.

AVENTURINE—WHAT IT IS AND HOW TO MAKE IT.

Aventurine is a mineral compound, composed chiefly of quartz, and remarkable for the brilliancy with which it reflects light; this effect being generally produced by fine points of mica imbedded within the crystalline mass. It is quite extensively employed in jewelry and other articles of ornament in some parts of Europe. It was first produced, artificially, in Venice, where, in the middle ages, the manufactures from it constituted quite an important business; but the process was kept a secret, known to but few, until it was finally lost. Many years ago, however, it is said that a Venetian jeweler accidentally hit on a certain combination of minerals which produced an article almost as perfect as the relics which had been preserved from the early Venetian artists. His process was communicated to some Neapolitan jewelers, by whom and their descendants the secret has been preserved to this day, greatly to the profit of the Neapolitans, who have thereby been enabled to retain almost exclusive monopoly of that class of jewelry and ornamental trinkets. Various efforts have been made by manufacturers in other parts of the world to discover the secret.

In 1850, at the display of Medieval Art, by the London Art Society, a *tazza* of imitation of aventurine, or aventurine glass, as it is now commonly called, was exhibited, which attracted much attention. Many such things are preserved in European cabinets as relics of the early perfection of the art.

About a year since, M. Polouze made a written communication to the French Academy, in which he disclosed a method of his own discovery by which he had been able to produce aventurine, equal if not superior to that of the Venetians. His process consists of 80 parts of oxide of iron, 40 parts of protoxide of copper, and 300 parts of powdered glass, submitted to a high temperature for twelve hours, and then allowed to cool gradually. Another process is as follows: 40 parts of bicarbonate of potash, 50 of carbonate of lime, 100 of carbonate of soda, and 150 of white quartz sand, heated and cooled as the first.

A FRUIT-PRESERVING SOLUTION.—A Mr. Spear announces the discovery of a new agent for preserving fruit, which he calls a "Fruit-Preserving Solution," and which he claims will preserve fruit, with all its natural freshness, by being immersed in his solution and kept in jars or bottles merely corked, without being air-tight. He has exhibited to the editor of the *New York Mining Journal* fruit so kept one, two and three years, which still retains its original flavor. The solution has been analyzed by several chemists and pronounced perfectly harmless. Information with regard to this new preservative agent can be obtained of L. P. Worrell, general agent, 91 Hudson street, New York city.

LIBERALITY OF ARTISTS.—Messrs. Bradley & Rulofson, the leading photographers in this city, tendered the use of their spacious gallery for the benefit of the Ladies' Protective and Relief Society on Wednesday last. They also donated the materials used during the day. The proceeds amounted to over \$200.

Communications.

In this DEPARTMENT we invite the FREE discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Reese River Correspondence.

[Continued from Page 386 Vol. XII.]

MESSRS. EDITORS: Very little labor is being done on the mines in the immediate vicinity of Austin, at present, the attention of all being directed to other districts. In truth, there is very little encouragement for claim holders, or even agents of companies to do work here, there being a great reluctance shown by the heads of mining companies to pay necessary demands, such as labor, aside from expenses caused by extra machinery, etc. There also seems to be a general dissatisfaction shown by Eastern capitalists, in their investments in and about this district, caused principally by the delay in receiving their oft promised dividends. How much longer they will have to wait for them, depends wholly upon their action. They see that their neighbor makes headway with his mine, and is getting returns therefrom; while they, after having spent much the most money, still get nothing. If they would view the matter in a practical light, they would very readily see where the difficulty lies.

The shipment of hullion from Austin for the month ending July 31st, was \$80,674.61. The National Bank having shipped \$51,076.70, and Wells, Fargo & Co. \$29,597.91, being \$20,841.65 less than the shipments for June. The falling off was caused by the suspension of operations at the Manhattan, Boston, and Midas mills. The California, Keystone, and Ware mills being the only mills running during the month of July.

It must look strange to parties elsewhere, that with all our mills and the abundance of quartz we have here, there cannot be kept running over thirty-five stamps. Such seems to be the case, however; and hence the question arises, Why is it? Can it be, after the outlay of millions of dollars in this district in mining machinery and mills, the whole district cannot produce more than thirty or forty tons of ore per diem? Yes, so it is! and why? The answer is very simple, has been often repeated, and should be readily understood by all reasoning beings: That the district has been, and is daily being literally hatched by inexperienced managers, who apparently have only one object in view, to wit: To disgust their employers, and bring down their maledictions through their ill success, on the whole silver-bearing world; and I will say, that as far as this section is concerned, they have pretty nearly accomplished their end. Had it not been that adventurous men had prospected, elsewhere, and after diligent search, hard living, and the endurance of privations of all kinds had discovered and opened, to the satisfaction of every one, larger and better ledges than have yet been found here, it would have been a "dead heat" with us for some time to come. As it is, the attention of all is being directed to Philadelphia, Twin River, Hot Creek, Northumberland, and other districts south and east of this place.

This city is (comparatively speaking) almost depopulated on account of these outside developments, and it is not a "wild goose chase" this time, that our miners are after; but a plain case of large, well-defined and rich ledges.

THE HIGH BRIDGE LEDGE.

It is conceded by all, either "knowing ones" or the hard fisted, hard working miner, who believes only that which he sees and has indisputable ocular demonstration of, that the High Bridge ledge, in the Philadelphia district, is the largest and best ledge yet shown to the world. Men who have worked with pick, shovel and drill, in the great Comstock, say that this ledge far exceeds it, both in the quality and quantity of ores. The ledge has been opened by a cut run through it from wall to wall, at a perpendicular depth of forty feet, showing a vein of twenty-five feet in width, with well defined smooth walls, thereby exposing to the light of day, and to the greedy gaze

of all that can possibly get to see it, the finest body of ore ever yet discovered in any country. I am safe in saying that the whole ledge matter will yield \$200 per ton. Dr. Geller, one of the owners, hauled two tons from the mine to his mill, in this city, where it was reduced, and produced 2,020 ounces of crude hullion, which, when melted and refined will show a working of over \$750 per ton; (this of course was selected ore).

Other large ledges have been discovered in that district, but none of them are as yet as fully developed as the High Bridge. Success to the owners, and to all others, who display a like energy in the discovery and development of their mines.

Buel has removed a mill from Austin, and erected it near High Bridge, all inside of six weeks, and now has it in running order.

TWIN RIVER DISTRICT.

Much attention is being directed to Twin River District, large ledges are being opened with success to their owners, Mr. G. B. Montgomery of the Twin Ophir and Fairmount mine, has conveyed about fifty tons of the ore to the Keystone mill of this place, a distance of fifty-five miles. The ore, though of a character difficult to reduce, being composed of base metals, iron, zinc, antimony, sulphur, and arsenic, with little or no quartz, in view, was worked by the usual roasting process, within nineteen per cent., and yielding \$100 per ton in silver. The Canada ledge of the same district, owned by E. S. Davis and others, is an enormous mine, large, well-defined, and has worked here per mill process, \$175 per ton. Another lot of several tons is now being brought here for trial. The Buckeye ledge, as well as the celebrated Murphy, still hold their own, growing better as developed.

OTHER DISTRICTS.

In the discoveries made in these new districts, and the energy displayed by the discoverers, our country will be rebuilt, and confidence will be again placed in the mineral worth of the country; but some time must elapse before machinery can be arranged on these permanent ledges. When such is done, there will be no lack of hullion. That is "what the matter," and in truth, is the only salve that will heal the wounded spirits, and repair the damaged purses of our sanguine speculators and mill owners.

We all look forward to that time with pleasure, knowing well, that it is only a matter of time; but we have all waited so long for something to "turn up," that the least reverse in mining matters again brings a cloud over our future. As it is now, let there be success proven in a few instances, and others will then take hold with a will, when prosperity will be with us; but while this dormant indifference predominates with our capitalists, as in this district, little will be done towards our advancement.

PROGRESS.

Austin, August 12, 1866.

[Written for the Mining and Scientific Press.]

From Sierra County.

BY AN INDEPENDENT CONTRIBUTOR.

EDITORS PRESS: Downieville, the county seat of Sierra, situated at the junction of the North and South Forks of the North Yuba river, is a noteworthy place, not only for its geographical position in the center of a rich mining locality—both placer and quartz—but also for its being the head of wagon-road navigation, through and from which the various placer mining camps and quartz mines receive their supplies.

The placer yield of her gold fields has been so bountiful until a recent date, that but very little attention has been paid to the more reliable and permanent industry of quartz mining, which is now attracting considerable attention. Rich veins are being daily discovered and rapidly developed, while the placer yield is by no means exhausted. Sierra, to-day, has probably a greater area of placer fields, as yet virgin, than any other county in the State, owing principally to the nature of its deposits (the blue lead) being buried hundreds of feet in depth by basaltic lavas, requiring expensive and systematic explorations to develop them. Her area of hydraulic diggings is surpassed by none, either in richness or extent, and her river beds are not yet exhausted, but are periodically worked, yielding satisfactory returns.

As I before remarked, quartz mining, as a business, has received but little attention, as it requires both capital and mining and mechanical skill to develop and successfully work them. Wherever opened and tested, in every instance they have paid bountifully. In some few instances the operator has abandoned his

property after the line of decomposition has been reached, above which the sulphurets, which are principally iron, have been oxidized by the oxygen of the atmosphere and other deoxidizing agents, and the gold freed. Below the water-line the gold is found firmly held in the sulphuret, and crude manipulations, by simple amalgamations, the only process in use here, has failed to give a satisfactory result. Miners have become discouraged and thrown up the sponge.

Of the most notable mines in this vicinity that have a record, we find the Sierra Buttes company, Independence company, Keystone, American Hill, Primrose, Gold Valley, Spencer & Gray, Gold Bluff, Montpelier, Sailor, Oro, and Slug Canon companies, the most of them in successful operation, others in a state of development, while there are many others of recent discovery that bid fair to become properties of great value, and of which I will give a more detailed account in my next.

Downieville, August, 1866.

Vin.

[Written for the Mining and Scientific Press.]

The Mines of Idaho.

EDITORS PRESS:—Being a constant reader of your very valuable paper, I have often wondered why you do not give more space to the mining interests of Idaho, and I have partly made up my mind that it is not your fault altogether, but that you have no correspondents in this part of the world. Now, being myself a "miner," and one of the pioneers of Idaho Territory, I feel that a few observations on the quartz mines of Idaho would not be amiss in the MINING AND SCIENTIFIC PRESS; and, furthermore, owing to the many false impressions which have gone abroad in regard to the mines of our Territory, I wish to show the cause of these misstatements.

The quartz mines of Idaho embrace Boise, Alturas, and Owyhee counties—the latter silver. But I will confine myself more particularly to the interests of Boise county, being more intimately acquainted there. Starting with Idaho City and vicinity, I will commence with the Illinois, owned by Messrs. White, Harmer & Co. This company have a fine 10-stamp steam mill, which has been at work for nearly eight months, and one 20-stamp mill on the ground, but not put up. Their mine is now well developed, and is paying very handsomely. It is located about four miles north of Idaho City, and they employ about twenty hands.

Then we come to the Middleton mine and mill, located about half way between Idaho City and Centerville, on the divide between Elk and Grimes Creeks. This mill has been running about three months, and has yielded, on an average, twenty dollars per ton. They have a 10-stamp steam mill, and work about fifteen bands. This mine is not quite as well developed as some others, but, without doubt, will prove equal to any in the Territory when fairly in operation.

Next we come to the Elk Horn Gold and Silver mining company's mine and mill, which is situated on the head of Elk Creek, about fourteen miles due north from Idaho City, and about seven miles due east from Pioneer City. This company was incorporated in 1864, under the general laws of Idaho Territory. They own 5,400 feet, and have prospected the mine to the depth of 300 feet. They are now running another level 100 feet deeper. They have about 1,000 feet of tunnel, well constructed, and in fine shape. The quartz, since commencing to crush, has averaged over forty dollars per ton, and has paid as high as \$140. The principal part of the stock is owned in Pioneer City. The officers of the company are: C. L. Harrington, President; Joshua Saunders, Vice President; W. W. Chapman, Jr., Secretary; C. E. Freeman and John R. Miller, Trustees. This company started without a dollar, and is now entirely out of debt, and will soon begin to declare dividends. More anon.

Idaho.

Pioneer City, August 9th, 1866.

THE OIL STONE mine recently discovered by Charles H. Eaton and Wm. C. Holmes, near the Merced river, between Horse Bend and Don Pedro Bar, is attracting a good deal of attention. Barbers and others competent to judge say that the stone is superior to any other kind now in use. Since the first discovery, the mine has been opened and found to be very extensive. Specimens of the stone have been left at this office.

QUITE a poetical child was the little one that said: "Mother, listen to the wind making music for the leaves to dance."

ANNUAL REPORT OF THE SAVAGE MINING COMPANY.

The annual reports of the President, Superintendent and Secretary of this company, for the fiscal year ending July 10th, 1866, are highly encouraging to the stockholders. The President assures the stockholders "that a profitable future awaits them," and that there is no apparent reason "why the earnings of the mine hereafter will not be sufficient to meet all its current expenses, and pay satisfactory dividends." The financial condition of the company a year ago was anything but flattering. The debts at that time, past due, amounted to the large sum of \$111,099, while those already incurred, which had to be provided for during the current year, reach the sum of \$306,138, or a total of \$417,237. During the past year the whole amount of this large indebtedness has been paid, with the small exception of \$12,800, which was to have been paid in a few days subsequent to the date of the report. The whole amount has been paid out of the earnings of the mine, with the exception of one assessment of \$80,000. The present amount of liabilities is only \$59,730, to meet which the company has cash assets of \$100,259, leaving a cash balance, over all liabilities, of \$40,529. During the year, 29,535 tons of ore from the mine have been reduced, yielding \$1,251,753, or \$42.39 per ton. The cost of reduction, including improvements upon the mill, has been \$16.74 per ton. The cost of raising 30,652 tons, has been at the rate of \$18.06 per ton; which includes a reasonable amount of sinking, prospecting, and other dead work necessary to keep the mine in good order and properly developed ahead. The profits on the ore, over and above the current expenses of raising and crushing, have been \$7.59 per ton; without taking into account \$13,438 received for ores sold, on which there was no cost to the company for reduction.

The Superintendent speaks very encouragingly of the present appearance and condition of the mine. There is a very large amount of good ore in sight; while the developments in the mine itself, and in the adjoining claims, gives evidence of the most encouraging character with regard to those portions of the mine which have not yet been explored.

The total yield of the mine up to July 10th, 1866, has been \$4,243,660. The average yield per ton, previous to the present year, has been \$44.35; the average for the present year has been \$42.39—exclusive of some 200 tons of very rich ore which has been sold at the mine and in Europe. The original main shaft of this mine has reached a depth of 520 feet; the new "Curtis shaft" is now down 425 feet. The machinery now at the mine is considered sufficient to work the same to the depth of 2,000 feet.

The President, in closing his report, makes the following very proper suggestions:

All mining enterprises on our coast have so many interests in common, that it seems to me there should be cultivated a mutual and better understanding between those engaged in the various branches of mining, and particularly with those companies engaged in the production of the same metal.

Organizations have always existed by those engaged in like occupation, for the purpose of information, advancement and protection.

Mining officers have committed to their care and management a vast amount of very valuable property; therefore, to give proper direction and obtain the advantages of experience, it would be well that they form themselves into an association, for the purpose of exchanging the knowledge and experience acquired in the modes of working mines; the manner of treating ores; systematize the price and management of labor; to adjust questions that may arise between companies, and devise proper means of defense against blackmailing attacks and malicious trespasses. Much good and certainly great improvement might grow out of such an organization.

THE SAN JOAQUIN AGRICULTURAL FAIR AND INDUSTRIAL EXHIBITION will be held in Stockton, commencing on Monday, September 18th, and will continue four days. We acknowledge the reception of an invitation to be present.

FRANCE has 11,500 miles of navigable streams.

Mechanical.

ENGLISH OPINIONS.

The *Engineering* says: "We believe our Yankee brethren make an engine better adapted to rough, and even to ordinary lines, than our own, and, on the other side, we consider our engines simpler and stronger for their work. A Yankee boiler would burst, by hydraulic pressure, long before ours would give way, and yet they carry as high steam as we."

Mr. Norman Russel says, respecting our beam-engines:

The American steamboat engine has long been a subject of wonder to the English engineer. It is ugly, straggling, and inconvenient looking; its compactness, and want of snugness and economy of room, make it the reverse of everything we think good in a steamboat engine. It certainly made the same impression on me that it has done on all my countrymen, but it was at first sight, and at first sight only. Daily the unfavorable impression became mitigated by familiarity, and after a careful study of its details and qualities, I do not think it possible to design an engine more admirably fit for its use and purpose, under the circumstances where it is applied. In this country there is not a single engine which can be said to be entirely English, and pre-eminently suited to any one purpose. The American walking-beam engine, on the other hand, is universal in the States, and acknowledged to be best suited to their Eastern river navigation. I think it will be admitted, therefore, that the permanence of this kind of engine in the American steamers must be held as *prima facie* proof of its excellence, and that it is entitled to our respectful consideration, and likely to reward our careful study.

I have examined the structure in the best workshops of America, and have watched its practical working in their best steamboats. I have satisfied myself that it is cheaper in construction, lighter in weight, more economical in management, less costly in repair, more durable, and better suited for high speed than any of our own engines would be. I think that for the navigation of large rivers, like those of China and India, it might be adopted with great advantage, and many of its details, indeed, might be adopted with advantage in any engine.

A NEW AMALGAMATOR.—There is now being made at the Sacramento Iron Works, says the *Bee* of that city, a newly invented amalgamator, which promises to supersede all others now in use. A miniature edition of this amalgamator has been in operation in that city two or three months. It has operated on tailings from Nevada, El Dorado, Amador and other mining counties, and has never failed to call the cast-off tailings to account, advantageously. If the invention possesses all the power which the quartz miners with whom we have conversed claim for it, it is a valuable invention.

ECONOMIC RESULTS are obtained in burning fuel, by feeding the fire from below, and thus consuming the fuel from the surface downward, instead of from below upward, as usual. The air admitted is heated somewhat by the lower strata of fuel before it comes in contact with the hot coals, which assists in a very marked manner the complete combustion of the carbon. In a puddling furnace, near Glasgow, Scotland, which had consumed 41 cwt. of fuel, only twenty pounds of unburned residue was found. The modifications necessary to carry out this improvement under boilers are few and inexpensive, and the results so good that at the Gartness Works, near Glasgow, the weekly returns show a saving of one-third.

A GOOD CEMENT.—Gutta percha when dissolved in chloroform, so as to make a fluid of the consistency of honey, produces a good cement. When spread, it will dry in a few moments, but it will soften by heating. Small patches of leather can be cemented on boots by its use, in such a manner as to almost defy detection, and some shoemakers employ it with great success for this purpose. It is waterproof, resisting all the elements but heat.

AN ALLOY consisting of ten parts of cast iron, ten of copper, and eighty of zinc, does not adhere to the mold in casting, and it is of a beautiful luster when filed and polished. The most fractious metals are melted first, and the zinc last, in making it.

A GERMAN, named John A. Heyl, living in Boston, has invented a method for lighting all the street lamps in a city simultaneously. The lighting of lamps by electricity is no new thing, but what Mr. Heyl claims as the new feature in his invention is a stop-cock combined with an electric battery, by means of which the operator at any central point can turn the gas off or on, at his pleasure, at the same time igniting it with the electric battery. The stop-cock is the original feature of the invention, any number of which can be operated at the same time by a piece of platinum wire. To ensure the wind blows the gas out, it will ignite again of its own accord from the heat which is retained in the wires, without any electricity whatever.

SAN FRANCISCO AS A MANUFACTURING CITY. It appears from an official statement, compiled from the census of 1860, that the city of San Francisco at that time, although rating as the fifteenth city in point of population, stood as high as the ninth in respect to the value of her manufacturing investments and products—a most remarkable showing for a city at that time but eleven years old.

AIR-HAMMERS.—Mr. Grimshaw's high speed compressed air-hammer is now employed at Birmingham for various stamping and forging purposes: at Glasgow for copper-smith's work, and at Sheffield for steelwork. The machine consists of a force-pump supplying compressed air to a reservoir, and a working cylinder and piston similar to those of a steam-hammer; having arrangements for varying the action of the hammer as required, and increasing the rapidity of the blows, which may attain a maximum of 800 strokes per minute. The largest hammer yet put to work has a cylinder $8\frac{1}{2}$ in. in diameter, and a stroke of 28 in., and the pressure may be adjusted to any amount from five pounds to forty pounds per square inch. Several steam-hammers of from four to ten hundred weight are working at Sheffield, with which 500 or 600 blows per minute can be struck if required.

WROUGHT IRON DRUMS FOR PULLEYS.—We learn that Messrs. Hudswell & Clarke, of England, are now making a number of drums of wrought iron. The drums are only about half the weight of those of cast iron, and by their use the weight upon the bearings of the shafting is much reduced; belts also are found not to slip on them as they do on cast iron drums, and last much longer; in fact, at Messrs. Hudswell & Clarke's own works they state that they have been enabled to reduce their belt account one-half since they have used the wrought-iron drums.

OBLIQUE BELTS.—It sometimes happens that it is necessary to lead a belt obliquely from a pulley or fly-wheel, and in such cases much trouble is frequently caused by the belt slipping off. This can, in very many instances, be prevented by fastening a strap of thick leather, of a less width than the belt, around the center of the fly-wheel or pulley. The leather strip may be secured by counter-sunk copper screws passing through it, and tapped into the rim of the wheel.—*Engineering*.

GUN TUBES.—It appears that the steel tubes of the Woolwich guns, although hardened in oil, will not withstand the action of the powder and the bite of the shot. In many cases the steel tubes have been deeply scored, and it is a question which, we believe, has been seriously mooted, whether they shall not, in future, be wholly abandoned.—*Engineering*.

PROFESSOR ADOLPH found that hardened steel wire dissolved in hydrochloric acid without residue, whereas the same steel in the softened state yielded by such action a dark flocculent carbonaceous residue.

PROF. HOBKINSON has shown that strains, however feeble, if long applied, produced some permanent elongation or contraction in bars of iron.

THE *Zanesville Courier*, in noticing the contemplated visit to that city of Mr. George Peabody, the celebrated London banker, says: "Among the most benevolent deeds of this world renowned humanitarian, is the gift of \$50,000 apiece to each of his four nephews in the East—among them, Mr. Arthur Peabody, former local of the *Courier*."

A NEW YORK city correspondent says that the residence of A. T. Stewart, corner of Thirty-fourth street and Fifth Avenue, is nearly ready to move into. It eclipses any private building on the continent, so it is said, and will cost, without any furniture, \$2,500,000.

Scientific Miscellany.

EXTREME DELICACY OF PHILOSOPHICAL INSTRUMENTS.

It is wonderful to observe the great degree of perfection to which art has arrived in the construction of instruments for philosophical purposes. As an evidence of this, we may mention a galvanometer, which was manufactured a few years since in the city of Berlin for the great English experimentalist, John Tyndell, F. R. S., etc. The galvanometer is an instrument for measuring the force of the galvanic current. In this instrument two magnetic needles are used, one of which is surrounded by a copper wire, insulated or encased with silk. This wire must be absolutely pure copper; so delicate is this instrument, if properly made, that the least particle of iron in the copper wire will derange its action. In preparing the instrument above alluded to, such a derangement was noticed, although the wire was proved to be absolutely pure. After much research, the derangement was found to exist in the infinitesimally small amount of a compound of iron used in the green color of the silk, with which the wire was covered! White silk was substituted, and the derangement disappeared.

Again, we have recorded an instance of a pyrometer, constructed to measure the degree of heat transmitted to a piece of iron. The iron employed was an upright bar, two feet long, of sufficient diameter to stand upon its end. A mirror was connected with the top of this bar, from which a beam of light was reflected upon the wall of the room, by an electric lamp. When the bar shortened the mirror turned in one direction; if it lengthened, the mirror turned in the opposite direction. Every movement of the mirror, however slight, was multiplied by a long index of light, which was made to move through a corresponding space upon the wall. A mere breath projected against this piece of iron produced a sensible movement of this beam of light. The contact of the flame of a spirit lamp with the iron, caused the index to move through a space of fully thirty feet! When it is recollected that this movement of the index, was caused by the mere lengthening and contraction of that bar of iron, due to the small degree of heat applied, some idea may be formed of the delicacy of that mode of observation.

Another instance may be cited: An instrument known as "Melloni's Pile," which is so sensitive as a thermoscope for measuring heat, that it is said to be sensibly affected by the mere warmth of the hand, when held at a distance of six or eight feet from it.

PRACTICAL SCIENCE—THEORY AND FACT. In the study of nature two elements come into play, which belong respectively to the world of sense and to the world of thought. We observe a fact and seek to refer it to its laws; we apprehend the law, and seek to make it good in fact. The one is theory, and the other is experiment or fact; which, when applied to the ordinary purposes of life, becomes practical science. Thus, by the instruction of thought and fact, of truth conceived and truth executed, man has made science what it is—the noblest growth of modern times.

LIGHTING OF PUBLIC HALLS BY MAGNESIUM. At the Royal Institution, London, Mr. Larkin recently exhibited his method of illuminating public halls by the combustion of magnesium. The magnesium, in a finely-divided state, is showered on small flames of gas, and thus produces a brilliant illumination. It was the first time the apparatus had been publicly exhibited. The flame was flickering, but the pure quality of the light contrasted strongly with the usual gas flames of the burners in the lecture theater.

ROSES, as soon as the flowers have opened and bloomed one day, should have the decaying flower cut away; cutting back to a good strong bud, from which will come a new stem and flowers. Attention to this practice of cutting will keep plants blooming almost continuously.

EFFECTS OF LIGHT ON LEAD PAINT.—Dr. D. S. Price, of the British Association of Science, having noticed that in the glass cases of the last exhibition at the Crystal Palace, London, which were painted with white lead, substances which emitted sulphurous vapors did not darken or otherwise effect the paint, except where the paint was protected from the direct influence of the light, was thereby led to make some investigations into the subject. A number of experiments were tried, and among others a board was painted with white lead, and subsequently exposed for several hours to the action of sulphuretted hydrogen gas, until the entire surface had acquired a dull chocolate color. Glass of different colors was then placed upon it, leaving one portion exposed, or without any glass, and another portion covered with an opaque medium. The board so prepared was then exposed to the action of light, and several impressions were photographed by the light acting through the glass. The glasses employed were red, blue, yellow and violet. The results were that the portions exposed to the light were bleached, that entirely protected by an opaque covering remained unaltered, while correspondingly intermediate effects were produced by the differently colored glasses, varied according to the different degrees of opacity.

NITROLEUM is a new name given to nitroglycerine, by Col. T. P. Shafter, in his late report to the Secretaries of War and the Navy. The Colonel had been directed to make some comparative tests with gunpowder and nitroglycerine or "nitroleum," and the report referred to gives the results of these experiments.

New and Interesting Electrical Experiments.

In an account of some electrical experiments reported in *Poggendorff's Annalen*, M. Henrici states that if water containing hydrogen in solution be put into communication with ordinary water by means of a piece of moist paper, and the circuit be closed by a galvanometer, a current will be produced, directed into the galvanometer, from the ordinary water to the water charged with hydrogen. On this fact M. Henrici bases his opinion that a certain number of phenomena, usually attributed to the action of the oxygen of the air, such as oxydization of iron and other metals, and the putrefaction of vegetable substances, are really due to the decomposition of the atmospheric moisture.

Another experiment made by Professor Tait is recorded among the late proceedings of the Royal Society of Edinburgh, from which it appears that when a horizontal plate is put into a state of rapid vibration, iron filings strewn on the surface, near a point of maximum vibration, are prevented from being scattered to the nodal lines by a magnetic pole held above the plate; but if the pole be held below they are speedily dissipated. If too powerful a pole be used, or if the magnet be held too near the plate, the filings nearest the pole are not dispersed in the latter case. Professor Tait thus explains the phenomena: The filings tend to place their greatest length in the direction of lines of magnetic forces; and thus, when the pole is above the plate, their upper ends incline towards it, so that the agitation of the plate, combined with the magnetic attraction, brings them nearer to the point immediately below the pole. When the pole is below the plate the upper ends of the filings diverge from the pole, and the agitation sends them outwards, unless the magnetic attraction be considerable.

CHEAP ELECTRICITY.—In a recent note sent to the Academy of Sciences by M. Genard, "On a Battery of Iron Turnings," he thus describes the apparatus: "I replace the zinc of a Bunsen's battery by iron borings; an iron bar placed in the middle of the borings serves as a rephore; the iron is placed in common water. In the porous vessel I place a solution of perchloride of iron with aqua regia added. The electricity of this solution is collected by a carbon serving as the positive pole. The carbon is made of powdered coke agglomerated with paraffine. Such a battery may be made of large dimensions, and a great deal of electricity obtained at a small cost.

Heat has always been supposed to assist the union of gases which possessed an affinity for each other; but a Frenchman has found that oxygen has no tendency to unite with hydrogen, carbonic oxide or carbon, at a temperature higher than the fusing point of platinum.

THE LARGEST LITHOGRAPH ever taken is one of the present French Emperor, which was recently executed on a stone four feet in width and eight feet in length.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, August 18.

1 sh Yellow Jacket at 650 per foot, s. 3.
 5 shs Yellow Jacket at 650 per foot, s. 30.
 1 sh Yellow Jacket at 650 per foot, s. 30.
 14 shs Yellow Jacket at 670 per foot, b. 30.
 4 shs Yellow Jacket at 650 per foot.
 2 shs Belcher at 115 per foot.
 1 shs Belcher at 115 per foot, s. 3.
 1 sh Belcher at 117 per foot s. 3.
 1 sh Belcher at 116 per foot.
 12 shs Ophir at 210 per foot, s. 10.
 12 shs Ophir at 212½ per foot.
 12 shs Ophir at 214 per foot, s. 3.
 12 shs Ophir at 213 per foot.
 12 shs Ophir at 213 per foot, s. 3.
 12 shs Ophir at 214 per foot.
 1 sh Savage at 114 per foot.
 1 sh Chollar-Potosi at 173 per foot c.
 6 shs Chollar-Potosi at 174 per foot.
 70 shs Lady Bryan at 506 per share.
 5 shs Overman at 27 per share, s. 30.
 10 shs Overman at 27 per share, s. 3.
 10 shs Overman at 27½ per share, b. 15.
 10 shs Overman at 26½ per share, s. 10.
 10 shs Overman at 26 per share, b. 30.
 5 shs Overman at 26½ per share s. 30.
 5 shs Overman at 26½ per share, b. 30.
 6 shs Overman at 27½ per share, b. 30.
 20 shs Overman at 26½ per share, s. 3.
 5 shs Overman at 26 per share, s. 10.
 25 shs Overman at 26½ per foot, b. 10.
 5 shs Overman at 26 per share, s. 3.
 25 shs Overman at 26 per share, b. 16.
 35 shs Overman at 25 per share, s. 30.
 15 shs Overman at 25½ per share c.
 20 shs Overman at 26 per sh. b. 30.
 20 shs Overman at 15½ per share s. 3.
 30 shs Overman at 25½ per share.
 5 shs Overman at 26½ per share, s. 30.
 10 shs Bullion at 26 per share.
 6 shs Bullion at 26½ per share b. 15.
 10 shs Bullion at 25 per share, s. 3.
 6 shs Imperial at 90 per share, s. 3.
 Amount of sales.....\$ 26,877 50

Monday, August 20.

3 shs Yellow Jacket at 655 per ft.
 1 sh Yellow Jacket at 650 per foot.
 1 sh Yellow Jacket at 650 per foot c.
 2 shs Yellow Jacket at 655 per foot.
 1 sh Yellow Jacket at 677½ per foot, b. 30.
 2 shs Yellow Jacket at 670 per foot.
 1 sh Yellow Jacket at 670 per foot c.
 1 sh Yellow Jacket at 672½ per foot.
 1 shs Yellow Jacket at 675 per foot.
 1 sh Yellow Jacket at 675 pr ft, s. 3.
 3 shs Belcher at 120 per foot, s. 3.
 3 shs Belcher at 119 per foot, s. 3.
 24 shs Ophir at 215 per foot, s. 3.
 12 shs Ophir at 216 per foot.
 12 shs Ophir at 220 per foot, h. 30.
 24 shs Ophir at 219 per foot, s. 3.
 12 shs Ophir at 222 per foot, b. 30.
 12 shs Ophir at 220 per foot, s. 30.
 12 shs Ophir at 224 per foot.
 12 shs Ophir at 220 per foot, b. 30.
 12 shs Ophir at 225 per foot.
 10 shs Chollar-Potosi at 174 per foot.
 2 shs Chollar Potosi at 175 per foot.
 4 shs Crown Point at 900 per foot, b. 30.
 4 shs Crown Point at 890 per foot, s. 3.
 12 shs Overman at 24 per share, s. 3.
 10 shs Overman at 23½ per share, s. 3.
 5 shs Overman at 24 per share.
 20 shs Overman at 24½ per share.
 5 shs Imperial at 92 per share.
 10 shs Lady Bryan at 1½ per share.
 115 shs Lady Bryan at 1½ per share.
 10 shs Bullion at 24 per share.
 40 shs Sierra Nevada at 2½ per share.
 10 shs Sierra Nevada at 2½ per share.
 10 shs Oakland Railroad, 50 per cent.
 20 shs National Ins. Co. at 77½ per cent.
 \$1,000 S. F. Bonds, 1853, at 78 per cent.
 \$1,000 Legal Tender Notes at 71½.

AFTERNOON SESSION.

8 shs Crown Point at 875 per foot.
 1 sh Yellow Jacket at 635 per foot.
 1 sh Belcher at 155 per foot.
 2 shs Yellow Jacket at 69 per foot.
 4 sh Yellow Jacket at 700 per foot, b. 30.
 2 shs Yellow Jacket at 695 per foot, s. 3.
 2 shs Yellow Jacket at 669 per foot b. 3.
 12 shs Ophir at 230 per foot.
 48 shs Ophir at 230 per foot, s. 30.
 2 shs Confidence at 53 per share.
 7 shs Confidence at 52½ per share.
 15 shs Confidence at 51 per share.
 35 shs Overman at 24½ per share.
 1 shs Imperial at 92½ per share.
 20 shs National Insurance at 77½ per cent.
 Amount of sales.....\$ 38,655 25

Tuesday, August 21.

2 shs Belcher at 150 per foot c.
 1 sh Belcher at 155 per foot.
 3 shs Yellow Jacket at 695 per foot, s. 3.
 6 shs Yellow Jacket at 695 per foot.
 1 sh Yellow Jacket at 695 per foot, h. 3.
 1 sh Yellow Jacket at 705 per foot h. 30.
 2 shs Yellow Jacket at 692½ per foot s. 3.
 4 shs Yellow Jacket at 690 per ft, s. 3.
 2 shs Yellow Jacket at 700 per foot, b. 30.
 1 sh Chollar-Potosi at 175 per foot.
 6 shs Chollar-Potosi at 176 per foot, s. 3.
 15 shs Chollar-Potosi at 180 per foot, b. 30.
 13 shs Ophir at 235 per foot s. 3.
 36 shs Ophir at 230 per foot, s. 30.
 12 shs Ophir at 228 per foot.
 4 shs Crown Point at 875 per foot.
 7 shs Imperial at 94 per share.
 1 sh Imperial at 91 per share, b. 3.
 25 shs Confidence at 51 per share.
 5 shs Confidence at 50½ per share.
 8 shs Confidence at 50 per share.
 15 shs Overman at 28 per share b. 5.
 10 shs Overman at 28 per share, b. 5.
 5 shs Overman at 28½ per share b. 3.
 20 shs Overman at 28 per share, s. 3.
 5 shs Overman at 28½ per share, b. 10.
 10 shs Overman at 27 per share, b. 30.
 25 shs Overman at 27½ per share, b. 10.
 50 shs Overman at 27½ per share, b. 10.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, August 25th, 1866.

We refer our readers to the following interesting tabular statements carefully compiled from the

Semi-Annual Reports of the San Francisco Savings Banks.

NAME.	Date of Report.	Deposits.	Loans.	Earnings.	Reserve Funds.	Cash on hand.
Hibernia Savings and Loan Society.....	1866 July 21...	\$4,178,925 21	\$4,137,118 40	\$238,710 41	\$102,425 70	\$267,169 59
Savings and Loan Society.....	July 1...	2,049,112 91	2,120,069 31	113,601 64	*47,332 34	105,959 71
French Savings and Loan Society.....	July 16...	1,733,621 96	1,779,775 03	94,605 86	33,104 73	96,171 65
San Francisco Savings Union.....	July 3...	798,504 44	790,147 31	51,872 63	165,056 11	60,633 32
Cal. Building, Loan & Savings Society.....	No Rep't					
Totals.....		\$8,760,164 52	\$8,827,110 05	\$493,790 54	\$252,915 94	\$530,989 27
Totals, Jan. 1, 1866.....		7,905,081 63	6,754,302 83	305,060 80	226,935 63	574,663 10
Differences.....		\$1,755,102 89	\$2,072,807 22	\$187,729 74	\$15,883 31	\$143,673 83

*This sum does not take into account "Interest in suspense," amounting to \$4,572 95.

†Included in this sum is "Guarantee Capital Stock," amounting to \$51,220.

From the above very full exhibit of the operations of the Savings Institutions of this city for the first half of the present year, we deduce the following summary of gains, as compared with our previous statistical table, published last February:

NAME.	Deposits.	Loans.	Earnings.	Reserve Funds.	Cash.
Hibernia Savings and Loan Society.....	\$966,951 66	\$1,061,401 43	\$34,193 42	\$21,093 16	\$69,112 13
Savings and Loan Society.....	452,243 18	509,737 72	29,289 42	*2,476 00	119,624 39
French Savings and Loan Society.....	369,466 69	351,335 03			
San Francisco Savings Union.....	178,411 09	180,273 04	9,636 04	112,349 42	10,213 96
Total increase.....	\$1,967,102 62	\$1,992,807 22	\$93,121 88	\$25,915 68	\$189,830 48
Total decrease.....					\$189,830 48

*Interest in suspense not included.

†Guarantee Capital, or Capital Stock, included.

The decrease of cash on hand, although the deposits have increased to a very great extent, shows a much more prosperous condition than during the period of the last report, when large cash balances were carried forward under Legislative agitation for the repeal of the Specific Contract Act. The failure of this repeal scheme resulted in the restoration of full confidence in financial circles, opening the loan channels as freely as the specie paying deposit tide set inward. Out of the earnings for the past six months, the Hibernia Savings and Loan Society have declared a dividend of one per cent. per month, less the Federal tax; the Savings and Loan Society, ten per cent. per annum, free from Federal tax, for the same period; the French Savings and Loan Society, ten per cent. per annum, also free from Federal tax; and the San Francisco Savings Union, on ordinary deposits, ten per cent. per annum, and on term deposits, one per cent. per month—both free from Federal tax. The California Building, Loan and Savings Society reports annually in the month of October, and for this reason we at present lack statistics from that institution. The Hibernia Savings and Loan Society have 6,365 depositors; the Savings and Loan Society, 2,900; the French Savings and Loan Society, 2,000; and the San Francisco Savings Union, 1,758—total, 13,023. This would give an average amount of \$672.66 to each depositor on the total sum rendered—\$8,760,164.52—and as compared with the

5 shs Overman at 27 per share.
 6 shs Overman at 28 per share, b. 20
 1 sh Empire M & M Co. at 114 per share.
 2 shs Empire M & M Co. at 113 pr sh.
 1 sh Empire M & M Co at 112½ per share.
 6 shs Spring Valley W W Co at 44 per et.
 5 shs National Insurance at 77½ per et.

AFTERNOON SESSION.

12 shs Ophir at 225 per foot, s. 10.
 12 shs Ophir at 226 per sh, s. 30.
 24 shs Ophir at 226 per foot.
 24 shs Ophir at 233 per foot, b. 30.
 12 shs Ophir at 227 per foot.
 12 shs Ophir at 228 per foot.
 2 shs Crown Point at 855 per ft s. 10.
 2 shs Belcher at 162½ per foot s. 3.
 2 shs Belcher at 155 per foot.
 1 sh Belcher at 155 per foot, s. 30.
 1 sh Savage at 1175 per foot.
 6 shs Imperial at 94 per share.
 15 shs Bullion at 30 per share, b. 30.
 10 shs Bullion at 30 per share, b. 30.
 5 shs Overman at 27½ per share, b. 10.
 10 shs Overman at 27 per share b. 10.
 20 shs Overman at 28½ per share, s. 3.
 10 shs Overman at 27 per share h. 10.
 10 shs Overman at 27½ per share b. 30.
 5 shs Confidence at 45 per sh, s. 30.
 5 shs Confidence at 8 per share, b. 30.
 2 shs Cal Steam Nav Co at 79 per cent.
 2 shs Cal Steam Nav Co. at 79 per cent.
 1 shs Cal Steam Nav Co at 78½ per cent s. 30.
 Amount of sales.....\$ 37,095 23

Wednesday, August 22.

12 shs Ophir at 228 per foot, s. 3.
 12 shs Ophir at 230 per foot.
 36 shs Ophir at 230 per foot, s. 30.
 12 shs Ophir at 232½ per foot.
 3 shs Yellow Jacket at 690 per foot.
 1 sh Yellow Jacket at 705 per ft, b. 30.
 1 sh Yellow Jacket at 695 per foot, s. 3.
 1 sh Yellow Jacket at 697½ per foot, s. 3.
 2 shs Yellow Jacket at 710 per foot, b. 30.
 1 sh Yellow Jacket at 690 per foot, s. 30.
 3 shs Yellow Jacket at 700 per foot, b. 30.
 2 shs Savage at 1155 per foot.
 1 sh Savage at 1155 per foot, s. 30.
 2 shs Savage at 1160 per foot.
 2 shs Hale & Norcross at 1600 per foot.
 6 shs Hale & Norcross at 1600 per ft, s. 30.

15 shs Imperial at 94 per share.
 25 shs Imperial at 95 per share, b. 30.
 5 shs Sierra Nevada at 2½ per share.
 15 shs Overman at 27 per share, c.
 5 shs Overman at 27½ per share.
 10 shs Overman at 28 per share.
 5 shs Overman at 28½ per share, s. 5.
 25 shs Overman at 28½ per foot, b. 10.
 15 shs Overman at 28½ per share, s. 3.
 10 shs Bullion at 31 per share.
 5 shs Bullion at 30 per share, s. 3.
 29 shs Bullion at 30 per share.
 10 shs Bullion at 28 per share s. 3.
 6 shs Bullion at 29 per share.
 6 shs Bullion at 29 per share, s. 3.
 1 shs Empire M & M Co. at 110 per share.
 5 shs Oakland Railroad at 50 per share.
 20 shs Pacific Bank at 100 per cent.

AFTERNOON SESSION.

12 shs Ophir at 235 per share b. 30.
 24 shs Ophir at 230 per foot, s. 30.
 48 shs Ophir at 230 per foot.
 60 shs Ophir at 234 per foot.
 48 shs Ophir at 232½ per foot, s. 3.
 12 shs Ophir at 240 per foot, b. 30.
 60 shs Ophir at 235 per foot.
 12 shs Ophir at 235 per foot, b. 3.
 2 shs Yellow Jacket at 700 per foot, b. 30.
 1 sh Yellow Jacket at 700 per foot, b. 3.
 2 shs Yellow Jacket at 715 per foot, b. 28.
 1 sh Yellow Jacket at 715 per ft, b. 30.
 2 shs Yellow Jacket at 700 per foot, s. 10.
 1 sh Savage at 1160 per foot.
 1 sh Savage at 1160 per foot, s. 30.
 3 shs Savage at 1165 per foot, s. 30.
 1 sh Chollar-Potosi at 175 per foot.
 5 shs Bullion at 29 per share.
 35 shs Bullion at 29 per share, s. 3.
 5 shs Overman at 28½ per share.
 6 shs Overman at 29 per share.
 6 shs Overman at 29½ per share, b. 10.
 6 shs Overman at 29½ per share b. 10.
 100 shs Omnibus R R at 55 per share.
 Amount of sales.....\$ 69,820 75

Thursday, August 23.

1 sh Yellow Jacket at 715 per foot b. 30.
 3 shs Yellow Jacket at 705 per foot.
 1 sh Yellow Jacket at 705 per foot, c.
 2 shs Belcher at 147½ per foot.

population of San Francisco, taking it to be 120,000, give to each inhabitant a fraction over \$73.

The dullness incident to the Mining Share market for the past month still continues, but during this week nearly all stocks have been well sustained, and for the most part are firmly held at the close.

Hale & Norcross has met with trifling sales at \$1,600, and closes at \$1,750 asked. There is no new feature in the mine, every portion of which continues to look exceedingly well.

Savage rose from \$1,140 to \$1,175, receded to \$1,155, rallied to \$1,165, and sold yesterday at \$1,165, s. 30. During the week ending 18th inst., 1,031 tons of ore were extracted, and 756 tons shipped from the mine. The approximate value of the ore extracted amounted to \$48,000, and the estimated cost of the reduction and extraction of this ore was about \$22,000. The new body of ore, in the north drift, 6th station, is now 10 feet wide, and promises to become a valuable addition to the resources of this mine.

Crown Point receded to \$875, advanced to \$890, and closes at \$950. The product of this mine now averages about 100 tons per day. The Rhode Island mill commenced running again on the 21st instant.

Gould & Curry has not been dealt in this week, but is well maintained at \$790 asked. The small seam of ore discovered recently, 290 feet south of the Bonner shaft and fifty feet below the 2d station, may, it is thought, lead to a development of some importance at a greater depth than has hitherto been attained. The receipts of bullion will probably amount to \$120,000 for the current month.

Yellow Jacket is in better favor, and some 100 feet were sold, advancing from \$650 to \$720, b. 30, closing yesterday at \$735, s. 5. During the week ending 13th and 21st instant, 58 tons of 1st class, and 4,752 tons of 2d class ore were extracted from the mine, and the yield of bullion amounted to \$127,380. Considerable 1st class ore is now being found in the south mine, which is netting the company \$300 per ton. We are informed that this mine is looking better than at any former period.

Ophir has been in more request, rising from \$210 to \$235, and selling yesterday at \$225. Telegraphic advices state—"North Drift unchanged; Ore in a street tunnel running low; Vein in the 7th station not well defined." Receipts of bullion to the 21st instant exceeded \$22,000.

Chollar-Potosi rose from \$173 to \$180, then sold at \$179. Operations have been resumed below the Potosi tunnel. Throughout the Potosi station ore continues good, and some ore of good quality is also being met with in the old stopes of the Bajazette ground. The south drift from the main shaft is in 360 feet, and is supposed to be yet 80 feet distant from the vein. During the week ending the 18th instant, 492 tons of ores were sent to Custom mills.

Belcher was dealt in at enhanced rates; advancing from \$115 to \$155, closing at \$160. Empire Mill and Mining Company was sold at \$114@110 per share.

Imperial has fluctuated but little, selling at \$90@95, closing at \$100, b. 30. The new shaft is now down 520 feet. Both the Rock Point and Gold Hill mills are running up to their full capacity, and the ore from the Alta mine continues to show some improvement.

Confidence declined from \$53 to \$45, and closed at \$46, s. 10. Overman was dealt in to the extent of 1,000 shares within a range of \$23½@29½, b. 10, closing at \$24, b. 30. Bullion rose from \$24 to \$31, and sold yesterday at \$29.

Omnibus R. R. was dealt in at \$55 per share. North Beach and Mission is held at \$43 bid. This latter company has been paying regular dividends of ½ per cent. per month for some time past.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$248,443.50.

3 shs Belcher at 150 per share.
 1 sh Belcher at 142½ per foot s. 30.
 3 shs Belcher at 160 per foot, b. 30.
 8 shs Crown Point at 875 per foot.
 4 shs Crown Point at 890 per foot.
 3 shs Chollar-Potosi at 180 per foot.
 5 shs Chollar-Potosi at 179 per foot, s. 3.
 3 shs Chollar-Potosi at 178 per foot c.
 12 shs Ophir at 233 per foot, s. 3.
 48 shs Ophir at 230 per foot s. 3.
 48 shs Ophir at 235 per foot, b. 30.
 48 shs Ophir at 235 per foot, s. 30.
 25 shs Bullion at 30½ per share.
 6 shs Bullion, at 29 per share, s. 30.
 30 shs Bullion at 29 per share, s. 3.
 20 shs Sierra Nevada at 2½ per share.
 5 shs Overman at 28½ per share.
 35 shs Overman at 28 per share, s. 3.
 30 shs Overman at 28½ per share, b. 3.
 5 shs Overman at 28½ per share, c.
 5 shs Overman at 29½ per foot, b. 30
 15 shs Confidences at 48 per share.
 10 shs Confidence at 48 per share, b. 3.
 5 shs Confidence at 47½ per share.
 5 shs Confidence at 47½ per share, s. 10.
 5 shs Confidence at 47 per share, s. 3.
 100 shs Lady Bryan at 1½ per share.
 \$3,800 Legal Tender Notes at 71½.

AFTERNOON SESSION.

12 shs Ophir at 235 per foot, b. 30.
 12 shs Ophir at 230 per foot.
 12 shs Ophir at 230 per foot s. 3.
 12 shs Ophir at 230 per foot, b. 3.
 12 shs Ophir at 230 per foot, s. 3.
 1 sh Chollar-Potosi at 177 per foot.
 1 sh Chollar-Potosi at 178 per foot.
 1 sh Yellow Jacket at 720 per foot, b. 30.
 1 shs Yellow Jacket at 710 per foot s. 3.
 1 shs Yellow Jacket at 710 per foot b. 3.
 1 sh Belcher at 155 per foot.
 3 shs Belcher at 160 per foot, b. 30.
 2 shs Belcher at 155 per foot, b. 3.
 5 shs Overman at 27½ per share.
 5 shs Overman at 28½ per foot b. 30.
 15 shs Overman at 27 per share, b. 3.
 15 shs Overman at 27 per share.
 15 shs Overman at 26½ per share, s. 3.
 5 shs Overman at 26½ per share.
 10 shs Overman at 26 per share, s. 3.
 10 shs Overman at 27 per share, b. 30.

AFTERNOON SESSION.

1 sh Savings at 1200 per foot, s. 30 d.
 1 sh Savings at 1200 per foot.
 3 shs Savage at 1170 per foot, s. 3.
 3 shs Savage at 1165 per foot, s. 30.
 3 shs Crown Point at 890 per foot.
 5 shs Yellow Jacket at 725 per foot, s. 30.
 1 sh Yellow Jacket at 720 per ft b. 30.
 2 shs Yellow Jacket at 730 per foot, c.
 2 shs Yellow Jacket at 732½ per ft, s. 30.
 3 shs Yellow Jacket at 735 per ft, s. 5.
 72 shs Ophir at 225 per foot.
 5 shs Chollar-Potosi at 181 per foot b. 30.
 1 sh Chollar-Potosi at 179 per foot b. 30.
 1 sh Empire M & M Co. at 110 per share.
 1 sh Belcher at 160 per foot.
 5 shs Imperial at 93 per share, b. 30.
 10 shs Bullion at 29 per share.
 38 shs Overman at 28½ per share.
 10 shs Overman at 28½ per share.
 10 shs Overman at 22 per foot, s. 5.
 15 shs Overman at 26 per share, s. 3.
 10 shs Overman at 27 per share, b. 30.

Friday, August 24.

4 shs Crown Point at 915 per foot.
 1 sh Yellow Jacket at 730 per foot, h. 30.
 1 sh Yellow Jacket at 720 pr ft, s. 3.
 4 shs Yellow Jacket at 720 per ft, s. 30.
 7 shs Yellow Jacket at 725 per foot, b. 6.
 1 sh Yellow Jacket at 725 per foot s. 3.
 1 sh Yellow Jacket at 740 per ft, b. 30.
 1 sh Yellow Jacket at 735 per foot, s. 20.
 1 sh Yellow Jacket at 735 per ft, s. 30.
 1 shs Yellow Jacket at 722½ per foot, s. 10.
 12 shs Ophir at 228 per foot.
 12 shs Ophir at 237 per foot s. 3.
 84 shs Ophir at 227½ per foot.
 12 shs Ophir at 225 per foot.
 1 sh Empire M & M Co. at 107½ per sh.
 5 shs Bullion at 31 per share, b. 30.
 9 shs Imperial at 96½ per share.
 6 shs Chollar-Potosi at 178 per foot.
 5 shs Chollar-Potosi at 180 per foot, b. 3.
 5 shs Chollar-Potosi at 179 per foot.
 5 shs Confidence at 46 per share, s. 10.
 37 shs Overman at 24½ per share.
 40 shs Overman at 24½ per share, b. 30.
 10 shs Overman at 23½ per foot, s. 3.
 10 shs Overman at 23½ per share.
 5 shs Overman at 23½ per share, b. 30.
 5 shs Overman at 23½ per share, b. 30.
 10 shs Overman at 25 per share, b. 10.
 10 shs Overman at 24 per share, s. 30.
 2 shs Sierra Nevada at 2½ per share.
 5 shs Oakland Railroad at 52½ per share.

AFTERNOON SESSION.

1 sh Savings at 1200 per foot, s. 30 d.
 1 sh Savings at 1200 per foot.
 3 shs Savage at 1170 per foot, s. 3.
 3 shs Savage at 1165 per foot, s. 30.
 3 shs Crown Point at 890 per foot.
 5 shs Yellow Jacket at 725 per foot, s. 30.
 1 sh Yellow Jacket at 720 per ft b. 30.
 2 shs Yellow Jacket at 730 per foot, c.
 2 shs Yellow Jacket at 732½ per ft, s. 30.
 3 shs Yellow Jacket at 735 per ft, s. 5.
 72 shs Ophir at 225 per foot.
 5 shs Chollar-Potosi at 181 per foot b. 30.
 1 sh Chollar-Potosi at 179 per foot b. 30.
 1 sh Empire M & M Co. at 110 per share.
 1 sh Belcher at 160 per foot.
 5 shs Imperial at 93 per share, b. 30.
 10 shs Bullion at 29 per share.
 38 shs Overman at 28½ per share.
 10 shs Overman at 28½ per share.
 10 shs Overman at 22 per foot, s. 5.
 15 shs Overman at 26 per share, s. 3.
 10 shs Overman at 27 per share, b. 30.

MINING SHAREHOLDERS' DIRECTORY,

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMOUNT OF ASSESSMENT.	DAY OF DELINQUENT SALE.	DAY OF PAYMENT OF DIVIDENDS.
Amador P. Petrol. Co., Contra Costa Co., \$2.50, Sept 24-Oct 15			
Blue Lead G. & S. M. Co., Cal., Annual Meeting Aug 2			
Belcher, Baldwin, and Abernethy, \$10, Aug 21-Sept 1			
Belcher Co., \$10, Aug 21-Sept 1			
Bunker Hill G. & S. M. Co., El Dorado Co., \$1, Aug 11-Aug 25			
Capitol G. & S. M. Co., Cal., \$1, Sept 18-Oct 8			
Cosala S. M. Co., Mex., \$1, Aug 20-Sept 1			
Coastal G. & S. M. Co., Mex., \$1, Aug 21-Sept 1			
Cordillera G. & S. M. Co., Mex., \$1, Sept 1-Sept 17			
Central S. M. Co., Storey Co., Nev., \$5, Aug 23-Sept 12			
Crown Point, dividend, \$40, Payable June 15			
Confidence S. M. Co., Storey Co., Nev., \$10, Pay July 9			
Cole F. M. Co., Storey Co., Nev., \$4, Sept 13-Oct 3			
Diana G. & S. M. Co., Nev., \$3, Oct 5-Nov 2			
Diamond C. M. Co., Del Norte Co., \$1, Sept 7-Sept 2			
Del Norte, Constock Co., Del Norte Co., \$1, Aug 13-Aug 2			
Del Norte, S. M. Co., Storey Co., Nev., \$1, Sept 15-Oct 1			
El Paso, S. M. Co., Storey Co., Nev., \$1, Aug 13-Sept 5			
Enterprise G. & S. M. Co., Meadow Lake, \$1, Aug 19-Sept 1			
Gen. Washington G. & S. M. Co., Alp. Co., \$1, Sept 4-Oct 1			
Gold Hill, G. & S. M. Co., Nev., \$1, Sept 4-Oct 1			
Great Central M. Co., Arizona Terr., \$1, Aug 4-Aug 27			
Gould & Curry, dividend, \$50, Payable June 8			
Hanover G. & S. M. Co., Del Norte Co., \$50, Aug 31-Sept 15			
Leland, Arizona, \$10, Aug 19-Sept 1			
L. L. G. & S. M. Co., Annual Meeting Sept 13			
Imperial O. & S. M. Co., dividend, \$50, Payable Aug 15			
Jefferson O. & S. M. Co., Yuba Co., \$10, Aug 21-Aug 23			
Jettrey Oil M. Co., Humboldt Co., \$20, Aug 20-Sept 13			
Kentucky C. M. Co., Cal., Annual Meeting Aug 22			
Kentucky C. M. Co., Calaveras Co., \$1, Sept 5-Sept 25			
Lady Bell C. M. Co., Del Norte Co., \$1, Aug 13-Sept 1			
Leland, Arizona, \$10, Aug 19-Sept 1			
Lily of the Lake, Arizona, \$50, Aug 22-Sept 1			
La Victoria C. M. Co., Mariposa Co., \$1, Aug 15-Sept 1			
La Victoria C. M. Co., Mariposa Co., \$1, Aug 15-Sept 1			
Maricopa Star G. & S. M. Co., Alpine Co., \$1, Aug 13-Sept 4			
Mina Rica de las Flores M. & M. Co., Cal., \$1, Oct 2-Sept 2			
Nacore G. & S. M. Co., Mex., \$75, Aug 15-Sept 3			
Old Colony S. M. Co., Nevada, \$5, Sept 7-Oct 5			
Patrolina and Dolores S. M. Co., \$1.25, Sept 22-Oct 5			
Peninsula M. Co., San Antonio Dis., \$10, Aug 10-Aug 28			
Rattlesnake G. & S. M. Co., Yuba Co., \$1, Sept 12-Oct 3			
Refugio M. Co., Jesus Maria, Mex., Annual Meeting Sept 13			
Santa Cruz Petrol. Oil Works Co., Annual Meeting Sept 23			
Segregated Holdings, M. & M. Co., Nev., \$5, Sept 19-Oct 1			
Shannon M. & M. Co., Alpine Co., \$5, Sept 19-Oct 1			
Scout M. & E. Co., Humboldt Co., Nev., \$50, Aug 18-Sept 1			
Santa Cruz Pet. Oil Co., \$50, Aug 7-Aug 28			
Santa Cruz Pet. Oil Co., \$50, Aug 7-Aug 28			
Sierra Nevada S. M. Co., Nev., \$1, Sept 5-Sept 25			
Sierra Valley G. & S. M. Co., Cal., Annual Meeting Aug 27			
Santa Anna Petrol. Co., Los Angeles, Annual Meeting Aug 25			
Sierra Nevada G. & S. M. Co., Nevada, Annual Meeting Aug 25			
Santa Rosa G. & S. M. Co., Semi Annual Meeting Sept 6			
Tecumseh O. & S. M. Co., Cal., \$10, Sept 17-Oct 8			
Toddman Mountain G. & S. M. Co., \$1, July 27-Sept 1			
Trinidad G. & S. M. Co., \$3, Aug 2-Sept 4			
Trinidad G. & S. M. Co., \$3, Aug 2-Sept 4			
Union Matule Oil Co., Humboldt Co., \$15, Sept 12-Oct 15			
White & Murphy O. & S. M. Co., Annual Meeting Sept 4			
Yellow Jacket S. M. Co., div. \$30 sh., Payable August 15			

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

	Bid.	Asked.
United States 7 1/2-10ths	\$ 73 1/2	\$ 77 1/2
Gov. Legal Tender Notes	70 1/2	70 1/2
State Bonds, 7 1/2 cent	81 1/2	84
San Francisco 10 cent	100	105
San Francisco Bonds, 1855, 6 cent	63 1/2	65
San Francisco Gas	110	120
San Francisco Oil, 1858, 6 cent	69	70
Sacramento City Bonds, 6 cent	10	21
Sacramento County Bonds, 6 cent	60	70
Marysville Bonds, 10 cent	75	82
Stockton Bonds, 10 cent	80	85
Yuba County Bonds, 10 cent	80	85
Butte County Bonds, 10 cent	70	80
California Navigation Co.	79	80
State Telegraph Stock	31	35
San Francisco Gas Co.	125	130
Sacramento Gas Co.	75	75
Spring Valley Water Co.	64	66

RAILROADS.

Sacramento Valley Railroad	54	60
Oroville Railroad	54	60
Central Railroad Co.	43	45
North Beach and Mission	43	45

MINING STOCKS.

Alpha	51	\$125
Baltimore American	28	29
Bullion, G. H.	157	165
Becher	45	46
Confidence	215	220
Ogish	750	790
Gould & Curry	110	125
Empire M. & M. Co.	1165	1190
Savage	173	174
Chadler-Potter	1650	1800
Hale & Nueross	2	2 1/2
White & Murphy	720	740
Sierra Nevada	22 1/2	24
Yellow Jacket	910	950
Overman	60	65
Crown Point	60	65
Autelopo	60	65
Emeralda	60	65
Real del Monte	60	65
Buckeye	60	65
Dick Sides	60	65
Imperial	90	95

San Francisco Market Rates.

WHOLESALE PRICES.

	FRIDAY, AUG 24, 1886.
Flour, extra, 40 lbs	5 00 @ 5 50
Do Superfine	4 50 @ 5 00
Do Meal, 100 lbs	5 00 @ 5 50
Wheat, 100 lbs	1 40 @ 1 55
Oats, 100 lbs	1 45 @ 1 50
Barley, 100 lbs	60 @ 1 00
Beans, 100 lbs	3 50 @ 5 50
Potatoes, 100 lbs	50 @ 75
Lard, 100 lbs	7 00 @ 13 00
Live Oak Wood, 1 cord	8 00 @ 10 00
Beef, on foot, 1 lb	6 @ 8
Beef, extra, dressed, 1 lb	10 @ 12 1/2
Sheep, on foot, 1 lb	1 00 @ 2 00
Hogs, on foot, 1 lb	8 @ 9
Hogs, dressed, 1 lb	10 1/2 @ 13

GROCERIES, ETC.

Sugar, crushed, 1 lb	13 @ 11
Do China	10 @ 11
Coffee, Costa Rica, 1 lb	24 @ 25
Do Rio	23 @ 24 1/2
Tea, Japan, 1 lb	90 @ 1 00
Do Green	70 @ 1 00
Hawaiian Rice, 1 lb	9 @ 10
China do.	6 1/2 @ 7 1/4

Coal Oil, 1 gal.	70 @ 75
Candle, 1 lb	18 @ 22
Ranch Butter, 1 lb	22 1/2 @ 40
Isthmia do	30 @ 31 1/2
Cheese, California, 1 lb	10 @ 17
Eggs, 1 doz.	18 @ 20
Lard, 1 lb	18 @ 20
Ham and Bacon, 1 lb	20 @ 21
Shoulders	12 1/2 @ 15

Retail Prices.

Butter, California fresh 1 lb.	45 @ 50
do pickled 1 lb.	38 @ 40
do Oregon	35 @ 40
do New York 1 lb.	40 @ 45
Cheese, 1 lb.	30 @ 40
Honey, 1 lb.	50 @ 60
Eggs, 1 doz.	22 1/2 @ 25
Lard, 1 lb.	22 1/2 @ 25
Hams and Bacon, 1 lb.	22 1/2 @ 25
Cranberries, 1 gal.	70 @ 1 00
Potatoes, old, 1 lb.	10 @ 12
do New 1 lb.	10 @ 12
Tomatoes, 1 lb.	10 @ 12
Onions, 1 lb.	6 @ 8
Apples, No. 1, 1 lb.	2 @ 8
Pears, table 1 lb.	8 @ 10
Plums, dried, 1 lb.	20 @ 24
Peaches, dried, 1 lb.	16 @ 20
Oranges, 1 doz.	50 @ 60
Lemons, 1 doz.	75 @ 80
Chickens, apiece	87 @ 12
Soap-Pale & C. O.	8 @ 10
Castile	10 @ 15

FROM IDAHO.—We give the following extract from a letter dated Boise City, I. T., August 11, 1866. We hope to hear from our correspondent, according to promise. We have taken the liberty to make use of the following from his private note of the above date: "Early next month I propose to visit Rocky Bar and Yuba, to get a ton or two of choice rock to be sent to England, as a sample of Idaho ores. At Yuba a similarly rich streak to that which you have before noticed as having been found in the Leonard lode has been discovered in the Robert Burns' lode. I have not yet heard full particulars.

"Dufresne & Co's mill, for Yuba, passed here two days since; but it will be as much as they can do to get a fair start this fall, as there is no road yet opened suitable for their heavy machinery, and they will have to work at road-making as well as freighting. Owing to bad management, I fear Rocky Bar has been set back two or three years; but Mr. John Greene, superintendent of the Worthingham company, informs me that he purposes to start as soon as he can complete some needed alterations in the mill, and for that purpose is awaiting instructions from headquarters. Mr. Creighton has gone out easterly to make arrangements about telegraph poles, and intends as speedily as possible to have this place in telegraphic communication with the civilized world.

"Times here are dull; but farmers are busy harvesting, and all seem satisfied, as the crops are excellent."

[ADVERTISEMENT.]

San Francisco City and County Union Ticket.

For City and County Attorney:

HORACE M. HASTINGS.

For Chief of Police:

PATRICK CROWLEY.

For Auditor:

HENRY M. HALE.

For Tax Collector:

CHARLES R. STORY.

For Public Administrator:

WM. A. QUARLES.

For Superintendent of Streets:

GEORGE COFRAN.

For Fire Commissioners:

BENJ. H. FREEMAN, JOHN V. McELWEE.

For Supervisors:

WARDS.	WARDS.
1st.....Henry S. Brown	8th.....F. G. E. Tietel
2d.....Samuel Brannan	9th.....A. J. Schrader
3d.....F. T. Dunn	10th.....O. F. Willey
4th.....E. B. Vreeland	11th.....Albert J. Randall
5th.....James Riley	12th.....Charles Clayton
6th.....W. H. Tumpkins	
7th.....J. McArthur	

School Directors:

WARDS.	WARDS.
1st.....E. H. Coe	7th.....Wm. G. Balger
2d.....T. W. F. Hale	8th.....A. W. Scott
3d.....W. Ayer	9th.....P. B. Cornwall

Union County Central Committee:

WARDS.	WARDS.
1st.....Leonard Morse	7th.....John P. Sheldon
2d.....L. Selinger	8th.....Jacob Beeth
3d.....E. H. Washburn	9th.....David Dwyer
4th.....F. T. Dunn	10th.....E. T. Peck
5th.....E. B. Vreeland	11th.....O. F. Willey
6th.....James Riley	12th.....J. Merrill
7th.....W. H. Tumpkins	13th.....James F. Neville
8th.....J. McArthur	14th.....W. H. Davis
9th.....John Banning	15th.....J. P. R. Wentworth
10th.....T. J. Blakely	16th.....J. B. P. Davis
11th.....John Reynolds	17th.....Frank M. Pixley
12th.....D. D. Shattuck	18th.....Chas. R. Story

DEMOCRATIC NOMINEE!

—FOR—

PUBLIC ADMINISTRATOR,

P. J. WHITE,

Col. M. C. SMITH.

7-13-86

[ADVERTISEMENT.]

NATIONAL UNION

Democratic City and County Ticket.

For Chief of Police:

P. J. WHITE.

For Tax Collector:

GEN. H. A. COBB.

For Auditor:

WASHINGTON BARILETT.

For Superintendent of Streets:

LEANDER WINTRINGER.

For City and County Attorney:

SELDEN S. WRIGHT.

For Public Administrator:

COL. M. C. SMITH.

For Fire Commissioners:

JOHN BARR, SIMON T. WALSH.

For Supervisors:

WARDS.	WARDS.
1st.....P. H. Daly	7th.....Peter Wheelan
2d.....Wm. B. Fairman	8th.....Jacob Schreiber
3d.....Peter Dempsey	9th.....S. B. Thompson
4th.....Michael O'Neill	10th.....Jus. G. Carson
5th.....Dr. J. C. Shorb	11th.....Frank McCoppin

For School Directors:

WARDS.	WARDS.
1st.....Michael Daly	7th.....Thomas C. Maguire
2d.....Peter Dempsey	8th.....S. B. Thompson
3d.....Dr. J. C. Shorb	9th.....Peter Johnson

For Constables:

First Township.....Samuel Bridgewood	Fourth Township.....Thomas Agnew
Second Township.....Cornelius M.oney	Fifth Township.....John Kelly
Third Township.....Wm. S. Jones	Sixth Township.....John Kelly

Address to the Voters of San Francisco

We, the members of the Democratic County Convention, respectfully addressing ourselves to the Voters of San Francisco, claim for the ticket we have nominated your approval and support.

We have succeeded in securing gentlemen of irreproachable character and acknowledged fitness to serve as candidates. In making the selection, we have been careful that schemes for personal aggrandizement and mere political success should not shut out from view the future welfare of the community. The peace of the city, protection to property, and fidelity to the part of the custodians and dispensers of the public moneys, are the considerations which have controlled our deliberations.

We are persuaded that a change for the better can be made in the manner of administering the several Departments of the City Government; and this we believe to be the general conclusion in the public mind.

Whilst it is conceded that much credit was due, for a time, to those who managed our municipal affairs in an independent spirit, it is also contended that more recently they have ignored the former proper tests for official position, and have become mere partisans, intolerant in their views and prejudiced in their action. With this change in the spirit of their government, there has also come extravagance in public expenditures, oppression in their license system, and corruption in the police regulations. Reform is therefore needed in the City Government. This reform can be effected only through the agency of the ballot box. To that end we heartily invite the co-operation of the voters of San Francisco.

Nor should it be forgotten that the result of the approaching election will, to some extent, affect all the social and monetary interests of our city. Moreover, it will exert an important influence on politics throughout the State; and in order that the people may fully appreciate the political significance of the victory we fervently hope to achieve, we shall briefly declare the principles which our nominees adhere to, touching their duties and the great issues of the day.

We pledge them to a faithful discharge of the obligation their election will cast upon them.

We pledge them to an unwavering support of those principles of our Government which assert the supremacy and vindicate the dignity of the white race.

We pledge them to the doctrine of the equality of all of the States of the American Union, and the right of each in individual case to determine, under the Constitution of the United States, the qualification of its electors, and to provide for its local prosperity and domestic happiness in its own way; and

We pledge them to a firm adherence to the policy of the National Administration, looking to the defense of these great principles as the only means calculated to heal our differences, to secure for the Government the undivided affection of the people, and to the Union of the States that freedom, prestige and power rightfully belonging to a great Republic; and, in conclusion,

We declare that they approve of the call for a National Convention, and hope that beneficial results may come of its patriotic purpose.

Finally, we beg leave to say that the evasion practiced by the County Convention of the opposite party on these vital questions, is, in our opinion, designed to accomplish a great political fraud; and is trifling with the intelligence of the people and the interests of the State. We condemn as dangerous, ill timed, and characteristic of Radicalism, the letter and spirit of the address put forth by that body. It is but an appeal to the passions of party at a time when those powerful in war and successful in battle should be just and magnanimous in peace.

7-13 By ORDER DEMOCRATIC COUNTY CONVENTION.

DEMOCRATIC NOMINEE!

—FOR—

CHIEF OF POLICE,

P. J. WHITE,

No. 412 Front Street.

7-13-3W

Trades and Manufactures.

WM. BARTLING, HENRY KIMBALL,
BARTLING & KIMBALL,
BOOK BINDERS,
Paper Rulers and Blank Book Manufacturers.
505 Clay street, (southwest cor. Sansome),
1612-3m SAN FRANCISCO.

JOHN DANIEL,
(SUCCESSOR TO O. GORI)
MARBLE WORKS,
No. 408 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs,
Etc., On hand and Manufactured to order.
Goods shipped to all parts of the State. Orders so
respectfully solicited. 505-3m

NATHANIEL GRAY,
General Furnishing Undertaker,
641 Sacramento St., corner of Webb, San Francisco.

Burnett's Metallic Burial Caskets and Cases,
111

THEODORE KALLENBERG,
Maker of Models for Inventors.

MACHINES, MATHEMATICAL, OPTICAL AND PHIL-
OS

Mining Summary.

CALIFORNIA.

Alpine County—

From the Silver Mountain *Bulletin* of August 11th we gather the following items: The George Washington company are now taking out, for working at the Washington mill, some of the richest ores ever taken from this claim. They have now some fifty tons on hand, and by the time the mill is ready for crushing, they will have at least one hundred and fifty.... On Monday morning of this week work was commenced in good earnest upon the mill. Laborers are busily engaged in digging a foundation for the batteries, while the millwright is preparing the frame-work therefor.... The O. K. company have cut their ledge through the foot-wall, and are running along the casing, stripping the vein as they run north. They will probably cut across the ledge the latter part of this week, and commence taking out ores for crushing.... Lady Franklin company are taking the statutory steps to perfect the title to their claim, by compelling parties who have not signed the Trust Deed to come forward and do so, or abide the action of the law in such cases made and provided.... The tunnel of the Illinois California company is now in nearly 400 feet. They have made good progress from the commencement, notwithstanding the exceedingly hard rock which they have encountered. The Sacramento ledge is about three hundred feet ahead, and the tunnel will be continued until it is struck.

The same paper has an editorial on the "Mines of Alpine," from which we quote: The ledges that cross Alpine county are conceded to be on the Virginia City and Gold Hill range of argentiferous quartz, and embrace in width, from southeast to northwest, a distance of twenty miles in an air line. Assays from a few of the mines in this county have reached from \$4,000 to \$5,000 per ton, among which we name the Esmeralda No. 2, of Monitor district, and George Washington No. 1, of Silver Mountain. But the real test of the value of ores is the results obtained from workings. Antimony to a greater or less extent is found in all our ores, and in order to extract all the precious metals contained in them, a partial roasting becomes necessary. The highest yield obtained by the working process has been from the Morning Star, at Mogul, the yield from one working being at the rate of a ton over \$800 per ton. Next in order of yield comes the I. X. L., which, from a number of tons worked at the Pioneer mill at Markleeville, yielded over \$100 per ton. Buckeye No. 1, a parallel lode with the I. X. L., from fourteen tons realized to the stockholders a ton over fifty dollars per ton.

Butte County—

The American *Flag* of August 14th, reports the discovery of an immensely rich quartz ledge, forty miles in some direction or other from Oroville, traceable 3,000 feet, from four to six feet wide, fabulously rich, and inexhaustible. It is named the Jennie.

Calaveras County—

A correspondent of the *Chronicle* has the following: "Why can't we coax the great gold-bearing quartz range through Calaveras county? * * * Weekly we submit a brief description of a few 'bunches' situated within one mile of West Point: Chas. Goulson & Co., width of vein, two feet; depth, fifty feet; length of bunch, 100 feet. Two hundred feet south of this, discovered bunch No. 2, last Saturday; width of vein, two feet; depth, 100 feet; better quartz than bunch No. 1, worth \$120 per ton. Johnson and Willis: width of vein, one foot; depth, thirty feet; length of bunch, thirty feet; \$140 per ton. Hare & Valencia: width of vein, one foot; depth, thirty feet; length of bunch, forty feet; \$50 per ton. Leuhard & Co.: width of vein, two feet; depth, twenty-five feet; length of bunch, ninety feet (drifting); \$60 per ton. Chino & Cruz: width of vein, 1½ feet; depth, sixty feet; length of bunch, forty-five feet; \$80 per ton. Reed & Hillary: width of vein, two feet; \$70 per ton. Baggalupi & Co.: width of vein, twenty inches; depth, forty-five feet; \$60 per ton. Reed & Co.: width of vein, fifteen inches; depth, eighty feet; \$46 per ton. The above are only a part of our paying quartz claims; time prevents me from mentioning many others at present. Last Saturday Mr. F. Morris discovered a vein, in the bed of Bear Creek, which promises to be a 'peculiar spot.' It is three feet wide, and will average over \$100 per ton. The writer saw a piece of quartz, taken from the vein three feet deep, weighing 1½ pounds; offered twenty dollars for it, and was refused."

El Dorado County—

Among the ledges in the vicinity of Georgetown is what is known as the "Horn Blain." This lode is so extensive that it is traced to Forest Hill on the north and Placerville on the south. The west wall rock of this ledge is composed of granite from forty to fifty feet in thickness, then quartz from two to four feet

thick. This is succeeded by a sandstone formation some two feet thick, followed by quartz again a foot in thickness, then slate; then the Greenstone, or "Horn Blain," extending south through Amador county—being very wide. There is every indication that the rock in this ledge is very rich in gold-bearing sulphurets. I am fully convinced that the entire divide between the South and Middle Fork of the American river is one vast body of quartz, which in time will be prolific in wealth. I have just been shown a splendid prospect taken from one pound of quartz from a shaft thirty feet deep, on what is supposed to be an extension of the Collins' lead. This claim is owned by Dr. Stone and R. Murphy. Twenty-five cents was obtained from one pound of this rock.—*Exchange*.

Inyo County—

The *Tulare Times* of August 18th says: Lieut. Hephurn has just returned from Owen's River. He reports the mines in that locality as being very rich and successfully worked.

Kern County—

This new county already has a newspaper. The *Weekly Courier*, published at Havilah, says, August 18th: This county has a larger scope of country embracing gold-bearing quartz than any other county in the State. The population of Kern has been drawn from all parts of the State, and the opinion is universal that there are more than twice as many claims placed upon her records than upon those of any other. Experience has proven that, the greater the depth, the greater the dimensions of the vein and its richness. Many of the claims are held by men who wish to sell, consequently no work is being done upon them. But this evil will soon be corrected. Capital is gradually flowing in. The fact that men from San Francisco, Grass Valley, Nevada, etc., have invested to a large amount, is the best argument we can offer in favor of the mineral richness of this section of the State.

A letter to the *Mariposa Free Press*, dated Kelsey, August 7th, says: At the "Hope Vein" they had made another clean-up, and out of three tons of rock got about four pounds of gold, worth fourteen dollars per ounce. The proprietors have since struck rock paying richer than ever.... A Mr. Pettis has bought the Rogers mill at Kelsey, and is now doing custom work.... The Abbott & Monkton company are about commencing operations.

Klamath County—

The *News* of 11th instant says that George Somes and Andrew Merrill have discovered at the mouth of Salmon a quartz ledge which prospects \$200 to the ton. The ledge is said to be six feet in width. The prospect was obtained from a piece of average rock, which was pounded in a mortar; the pulverized rock was then washed in a common wash-pan.

Mariposa County—

We clip the following from the *Free Press* of the 18th inst.: Tuesday last, we visited the Feliciano mine and mill, situated about four or five miles from Colorado. This mine is owned by a Mexican company. The shaft is 190 feet deep. The proprietors pay eight dollars per ton for crushing. The mill is owned by Louis Trabucco, of Bear Valley, who also owns two shares in the mine. The mill contains five stamps, and crushes about eight tons per day.

Want of space compels us to defer, until next week, a condensed summary of the editorial in the *Free Press*, in reference to those Mariposa mines, which are outside the Fremont grant.

Nevada County—

The *Gazette* has these items: We learn that Josiah Rogers, owner of the vineyard, hydraulic diggings and quartz ledge on American Hill, has leased the ledge for one year to William R. Duff, agent of an Eastern company, and conditionally sold the ledge and other property. The company are to erect machinery and prospect the ledge, and have the privilege of purchasing it, together with the vineyard and gravel diggings, within the year, for fifty thousand dollars.... We learn that Captain Kidd has sold his interest in the Banner mine to Charles Marsh and D. Crittenden. The papers were put on record, and the property delivered, yesterday forenoon. The interest sold was five-twelfths, the amount paid being \$62,500—being equal to \$150,000 for the whole mine.... In the Fox copper mine, they are now down to a depth of nearly forty feet, the ledge being about eight feet in width at that depth, but somewhat broken, and the ore mixed with greenstone. For this reason they have saved but a comparatively small quantity of ore in the past month or six weeks. They have, however, about forty tons of ore on the ground, which it is believed will average over twenty per cent. copper.... The test by working process at the Star mill, of the rock taken from the "Jim" ledge, having been satisfactory, the purchase will be concluded. The amount to be paid for the ledge is \$15,000, and the purchase is to be concluded by the 25th of this month.... The owners of the Stockton mine, situated near the Globe ranch, in Grass Valley township, have leased the same to G.

D. Roberts, Perrin & Co. The lease extends to five years, and the owners are to receive one-eighth of the gross proceeds of the mine.

The following are from the *National*: The Washington has struck a one-foot ledge which promises well.... The negotiations for the purchase of the North Star mine have been brought to a close. The sum paid is \$400,000, and the purchasers are represented by W. H. V. Cronise. During the past four years a net profit has been realized from the working of the mine of near half a million dollars, of which \$375,000 has actually been divided among the owners, and \$125,000 expended in the erection of a mill and other improvements.... The Lone mine is being vigorously developed. They have now a well defined ledge in the south drift, running toward the Lone Jack; and in the north drift, while the ledge is looking better than ever it has, the shoots or stopes show immense quantities of free gold.

The *Union* gives a list of twenty-seven quartz mills in Grass Valley township, the total number of stamps being 285, to be increased to 300 in a few weeks, by the completion of the 15-stamp mill of the Lucky company.... The negotiations for the Norambagua are completed, and the purchasers took possession on the 15th inst. They are A. C. Peachy, W. H. V. Cronise, M. Attwood, Hon. Ogden Hoffman and W. E. Dean, of San Francisco, and W. H. Rodda, of the North Star mine. The sum paid, as we have before stated, was \$100,000.

The San Joaquin company, at Sweetland, after a run of twenty-one days cleaned up \$16,000. A one-twelfth interest in this mine has recently been sold by Richard Kent for \$5,000. *Nevada Transcript*.

EXCELSIOR.—The *Sun* has these items: Three tons of ore from the U. S. Grant mine gave a return of \$330—making \$110 a ton.... The quartz mill of Persons, Martin & Co. at Carlisle, was started up Monday week, on ore from the mine of the Mountain Chief company. It is the intention to crush ore from the Grant mine next.... A *Transcript* writer says of the mines about Old Man Mountain: That many of the ledges are rich I cannot question. And if rich, they have advantages in the way of size, location, etc., over any other quartz mines in the State or world. I must hazard the prediction that in a few years the mines in the Upper Quartz Belt of California, will be acknowledged as the best on the globe.

A letter from Meadow Lake yesterday says: "This is the dullest town I have seen. Our daily *Sun* only rises twice a week now, and we have suspended our city incorporation; all of which looks discouraging to outsiders. Business of all kinds, excepting mining, is dull, and I suppose there will be little improvement this year."—*Gazette*, Aug. 16.

Placer County—

The *Herald* of the 14th instant has these items: The shaft on the Mohawk is down thirty-five feet, and the work is being prosecuted night and day. The ledge is four feet wide on the surface, and prospects well in free gold. It was located by the Leet Bros., one month ago.... Quartz from the Pleiad, taken from the depth of eleven feet, looks well. The ledge is two feet in width.... Pugh's quartz mill, at Ophir, is now kept constantly at work on custom rock.... Several tons of quartz from the Rising Sun ledge, at Colfax, was recently crushed at Grass Valley, and yields \$27.27 per ton.

Plumas County—

The *Union* has these items: Larrison, Moore & Co.'s claim on Black Hawk, has averaged an ounce per day to the hand for the past two months.... The ore from the Prince ledge, near Taylorville, which was smelted in Chipman's Furnace in Genesee, yielded about 4,000 pounds for the amount of ore smelted, viz: 18 tons.... Mr. C. J. Rice sold his claims on Black Hawk one day this week to Horace Reynolds of Badger Hill. Price paid \$650.... Fred. King & Co.'s new quartz mill at Mohawk Valley commenced crushing quartz for the first time on Tuesday last. The company have a large quantity of rock on hand, ready to be worked.

Sacramento County—

The miners at Willow Spring Hill, and other points in this vicinity lately on a strike, on account of the price of water, are all at work again.—*Folsom Telegraph*, Aug. 18.

Shasta County—

From the *Courier* of August 18th, we clip these items:—The Potosi commenced crushing rock last Thursday.... The miners in Dog Creek are doing well, and money is plentiful.... The Mammoth mill will again commence operations on Monday next, crushing rock from the Harrison lode. A good supply of rock is now at the mill, competent men have been engaged, and everything betokens a favorable run.... George McKean has lately returned to prospect a lode discovered by him on Flat Creek eight years ago, but not worked, placer mining being then in fashion. It promises well. By reducing the rock in a common hand mortar he has realized from two to six

dollars per day. He is now engaged in erecting an arrastra.

Sierra County—

The following items are from the *Messenger* of the 18th: The Montpelier Company have purchased the stock of the Sailor Company, heretofore in other hands, and now own the whole mine.... They paid at the rate of \$20,000 for the claim.... The Red Rock lode in Slug Cañon is being re-opened by a shaft. The rock so far prospects well, and is similar in appearance to the Good Hope rock. We understand the company intend having a few tons tested at the Montpelier mill.... The boys on the Good Hope claim are pushing along their lower tunnel with a rapidity truly surprising. In nine days they have run and timbered nearly sixty feet. About seventy feet more it is expected will take them to their ledge. In the meantime they are taking out rock from the upper level for crushing at the Gold Bluff mill.... The result of the Sailor Company's last run exceeded their expectations. The tunnel, as it progresses into the hill, daily develops more rich rock.... Jack Alderson & Co.'s hydraulic diggings are cleaning up with every prospect of good pay. Gold is sprinkled plentifully along their ground-slucies, besides they picked up over \$2,000 in nuggets, before setting their boxes.... The Oro claim is to be re-opened.... The Montpelier mill cleaned up on Monday last, after a run of twelve tons of Good Hope rock, and found that it paid over \$25 to the ton.... We saw at the Bank of H. Scamman, a few days since, a specimen of gold-bearing quartz. The lump weighs 159 ounces, and good judges say there is not more than three pounds of quartz. The piece was found about two feet below the surface in French Ravine, just below the mouth of Wet Ravine.

Correspondent of same paper, at Forest City, says: The Live Yankee claims are doing very well, making satisfactory clean-ups each week. The same is true of the claims worked by Messrs. Ellery & Marriot. The mining districts of Nebraska appear to come up to the usual average of the last few years. *Siskiyou County*—

The *Yreka Union* of Aug. 18th says: Some very rich rock was struck in the Shasta Butte Ledge on Humburg, a few days ago, some of which prospects as much as \$500 to the ton. The shareholders are considerably excited and are making preparations to work it more extensively.

Letter to same from Scott River, August 12th, says: The wing dams will soon be in a condition to give a good account of themselves. The derrick claims are in full blast. Of these, the French Ivy claim is the best paying on the river, realizing as high as two ounces a day to six hands, (mostly Chinese.) The Morgan on French Bar, too, pays handsome dividends to its owners. In spots nature has been prodigal. A few days ago I was shown three winsome looking pieces of real stuff, weighing respectively 8½, 5 and 3 ounces. They were found in Whiting Hill; the finder is Capt. Jackson, the pioneer of Stone River.

Tuloume County—

The owners of the Mount Vernon claim, situated near Columbia, cleaned up last week, after a run of ten days, two hundred and twenty-six ounces of gold.—*Exchange*.

Yuba County—

The *Appeal* of the 21st has the following: The Pennsylvania Mining Company, Brown's Valley, has just crushed 110 tons of their quartz, yielding \$3,400, or \$31 to the ton. This result, besides placing the finances of the company in a most healthy condition, is, however, chiefly of great importance as it shows so rapid and marked improvement in regard to the richness of the rock. The ledge is twelve feet in width.

The Blue Gravel Company, at Smartsville, Yuba county, cleaned up last Tuesday, after thirty days' run, nearly \$30,000.

NEVADA.

Washoe—

The Gold Hill *News* of August 14th, says: Our metropolis is living up very rapidly, and that there is every reasonable indication that real "good times" for old Storey are not merely approaching, but at hand. Everyone is remarking the improvement in the value of property in Virginia. In one year our place will be as stirring as in '63, or nearly so.

We are in possession of an authentic statement in regard to the discovery of immensely rich placer diggings not far from this town, which leads us to expect that within a few months there will be a "mining excitement" in Nevada such as will rival the rushing days of California. We are not at liberty to indicate the precise locality of the New Dorado. Three men who have been working a claim in the diggings referred to, during the past six months cleared \$15,000. A two bushel barley sack of dirt from a claim adjacent to the one spoken of was brought to Virginia a day or two since. From it \$38 in gold was taken. Four men lately, on literally surface dirt, averaged \$18 per day. And they are confident that the av-

erage yield through a large district which they have described to us will be from \$12 to \$20 per day per man. From two to twenty feet below the surface there is free gold and silver in quartz—the latter, of course, requiring the services of the mills to work it. We assure our readers that we here only recount what has been told us by citizens of Virginia of unimpeachable character for truth and veracity.

A very rich streak of ore was recently encountered in the Gould & Curry mine. It was found in sinking an incline from the second to the third level of the mine in order to create a better circulation of air, and is about five hundred feet southwest from the Bonner shaft, and over four hundred feet below the level of D street.

The great shaft of the Empiro and Imperial companies is now nearly five hundred feet deep, and drilling will be commenced shortly. The shaft is being sunk jointly by the two companies near the divide, in the ravine where the trail passes, generally taken by foot passengers going up from Gold Hill. This shaft is calculated and intended for the working of both of these mines at a very great depth.

Reese River—

The *Reveille* has the following items: We learn from Mr. J. H. Murphy that two tons of ore from Dr. Keller's location on the High Bridge, in the Philadelphia district, yielded 2,020 ounces of crude bullion. It is estimated that after melting, the yield of bullion will be at the rate of nearly \$800 per ton. Of course the ore worked was assorted from the mass. . . . We learn that excellent ore is being taken from the Morgan & Manney mine. We believe the ore is extracted from the original levels. . . . The building for the mill of the New England and Nevada company was being pushed rapidly ahead. The walls of the building are up and ready to be roofed in. . . . R. M. Widney, notes of a recent prospecting trip, say of Hot Creek district, that about fifty men are at work. In Philadelphia district, large quantities of ore are being taken out. In Wisconsin district, the veins, which are gold bearing, range from two to twenty feet thick, and their mineral, which contains traces of silver, has yielded by assay from a few dollars to quite \$500 per ton in gold. Silver Peak district, he says, only needs to be touched by the enchanter's wand, which is the poetical term for skill, capital and labor. The Vanderbilt contains immense deposits of rich ore. Its vein has been exposed by stripping for the length of 1,600 feet, and drifts have been pushed into the hill from ten to thirty feet long, cutting the vein in every instance. The "pay streak" in the vein varies from twelve inches to three feet in width, and is continuous and unbroken. It has been demonstrated by the reduction of several hundred tons of the ore in Martin's mill, that it will yield from \$100 to \$400 per ton.

On the Indian Jim ledge, Hot Creek, a shaft ten feet in depth has been sunk, and large masses of rich ore containing much horn silver disclosed. The ledge has recently been sold to a party abundantly able to develop it. The price paid was fifty thousand dollars, and the locators retain an interest of one-fifth forever unassessable. . . . In Mountain View district, the Old Dominion ledge is the one most worked. A number of tons of ore are ready for the mill, every piece of which is coated with horn silver.

A new district, the Empire, has been discovered and organized, 120 miles southeast of Austin. Twenty ledges have been located, the principal of which are called the Chieftain, Five-Twenty, Ten-Forty, and Four Partners. Portions of the outcropping ore of the veins have been assayed with good results, varying from \$12 to \$127 of silver per ton. . . . Recent developments in Santa Fe district are of a highly satisfactory character. Specimens of ore from the King ledge, by assay, yielded as follows: First class, \$1,854.70 per ton; second class, \$203.25.

The Nye County *News* of August 11th, has these items: A. Silvester, from Philadelphia district, reports everything in a flourishing condition; the mines are opening out handsomely, the mill will shortly be ready for operations. . . . The shipment of bullion, by the Knickerbocker mill, amounts to 3,966.64 ounces. Mr. Varney, of Austin, who has been at the mill superintending the working of the ore for a few days, gives it as his opinion that the success of the Knickerbocker is now placed beyond a doubt.

Letter to same paper from San Antonio says: Several of our leading operators have had associates in the East procuring capital for the development of our mines. Their efforts have been crowned with success, and agents are now on their way here, and will arrive in time to commence operations in earnest some time in August. * * The Lee mine is being vigorously worked day and night. They are taking out very rich ore. . . . The Pioneer mill, which cost \$120,000 in gold, and when finished was worth less than \$50,000, and which weakened on crushing one hundred tons of ore, is now being rebuilt at an additional expense of

\$20,000. . . . The Liberty mill company will soon commence the erection of steam hoisting works on their mine. The Potomac Hill mines are now idle, and will be for thirty days yet, on account of neglect of trustees in business matters. The Potomac has several tons of \$300 ore piled up on the dump. The tunnel has been run nearly two hundred and fifty feet, which will cut the veins some two hundred feet below the surface.

Correspondent of same at Weston, Mammoth district, says: The late developments of the Rosecrans shaft are of a remarkable character for the depth attained. After sinking the main shaft ten or twelve feet below the water line, drifts were started both east and west, the one on the east designed to meet the tunnel started at the base of the hill (which is now in 240 feet). In this easterly drift, eighteen feet from the shaft, the workmen have struck a body of ore eight feet wide. Through the entire lode sulphuret of silver is thickly sprinkled, with occasional blotches of ruby and native silver. . . . Work has been resumed on the American Flag lode. The last ore raised showed native silver.

Esmeralda—

The Union of the 18th instant has these items: The Utah company it is said will soon resume operations, and the Antelope, probably. The Philadelphia, Golden Age and Empire and Crockett companies, are driving away as energetically as ever. The Oxford Beta and Union tunnels are going ahead as rapidly as they can be pushed. The whole camp is awakened from its lethargy, and the confidence of its inhabitants is revived. . . . The mining prospect of Bodie, we are informed, was never more flattering than at present. Twelve tons of ore from the Homestake claim, worked dry at the Empire mill last week, yielded \$160 per ton. The miners of the Empiro claim have opened the third level at a depth of 260 feet, and find the vein greatly improved. The vein is from four to five feet thick, and the pay is much better than in the level. The mine yields about forty tons of ore per day, all of an improved quality. . . . John D. Winters, of Gold Hill, has purchased the Junata mine, on Martinez Hill, and intends to put a large force of miners to work on it immediately. His mill is being repaired with all possible dispatch, and will be in readiness for crushing the ore by the time the miners get fairly to work. . . . The Locomotive company have leased their claim on Silver Hill to N. Trojanovich, who commenced taking out ore a few days since. . . . It is currently reported that a party owning leads in Columbus have purchased a large mill in California, and that it is now on the way hither.

Humboldt—

From the *Register* of August 11th we gather the following: Work goes on bravely on in the Seminole company's tunnel, with fair indications that the rock will continue to improve as the work advances. The tunnel is now in 160 feet, and will cut the cropping ledges at a depth ranging from 480 to 700 feet below the surface, fully proving the mine with this one tunnel. Much interest is felt in the success of this enterprise, as the mine is believed to be of great value. . . . There was quite an excitement in regard to the re-locating of claims on the night of the 30th instant. Men who had expressed their disgust of rich croppings, clay casings, and "f-et" in general, became suddenly anxious to take a few more chances. The merits of claims that had almost passed into oblivion were discussed with a confidence and buoyancy of spirit refreshing to a disappointed prospector.

Letter to same from Paradise Valley says: Little work going on in the Winnemucca mines just now—owners negotiating with capitalists. Ore difficult to work by pan process; should be smelted to work well. Holt's mill running on Monroe ore, which will average \$300 per ton.

Pahranaagat—

The Nye County *News* of 11th inst. says: We had the pleasure of a call, on Wednesday last, from Mr. George Ernst, of Pahranaagat, who, in company with six others, made the trip in five and a half days, coming by way of Indian Springs. Mr. Ernst gave a most glowing account of that section, and said that the permanency and value of the mines is already placed beyond doubt. Parties are making arrangements for the erection of smelting furnaces, and several mills are expected to be in that district before winter.

A letter to the Salt Lake *Vedette* says that Wm. Raymond has arrived with a quartz mill.

Black Rock—

The Humboldt *Register* of the 11th has this item: Hon. M. S. Thompson arrived in this place on Wednesday last, direct from Black Rock mines. He has examined the mines carefully, and believes them very rich and extensive. He brought in samples of ore rich in silver.

IDAHO.

The *Avalanche* of August 11th has the following items: A very rich ledge, named Sherman, has recently been discovered in Flint

District. It is located near the head of Astor Gulch, and the title to it is in dispute. Twenty-five pounds worked by mill process, by Col. Fogus, gave at the rate of over \$600 per ton. Four pounds worked by hand-mortar process yielded a brick of bullion 2½ ounces. The ore is almost black with sulphurets. Not enough has been done to determine the size of the vein, but it is probably six feet. . . . In Flint, the Black Bros. have commenced preparing a mill site to receive their 5-stamp mill, which they expect will certainly arrive in ten days. . . . Stamper is the title given to a recent quartz discovery on Florida Mountain. It lies about fifty feet east of the Varney & Carrio. The vein is three feet near the surface, with good solid casings and very rich quartz. Mr. Stamper & Co. discovered the ledge, and own to the north of the discovery, and the N. Y. & O. Co. own south. The latter company have commenced earnest work on it. On Wednesday they set eight men to sinking on it, and sent up a blacksmith shop and other necessary appendages of a mine. The ore prospects well. The Whisky Gulch mine is yielding some very rich ore, and the ledge is becoming larger and better defined. . . . The Great Republic ledge was discovered and located about three weeks ago. It is situated half a mile below Boonville, north side of Jordan Creek; is twenty-five feet wide, and bears north and south. Two assays have been made—one by McDonald & Co., giving \$20.99, and another by King, Webb & Co. of \$32.96 per ton. . . . D. H. Jackson, Esq., has rented the Shoeborn mill, and expects to have it crushing ore the coming week. . . . D. C. Patterson, who, with two others, started two months ago from Idaho City, to explore the country lying east of Fort Hall, at the base of the Wind River mountains, had returned. He has made up a company of forty or fifty men, and will again visit the same region. The small party had several narrow escapes from Indians. They think they have found another gold field.

A correspondent writing from Idaho City to the *Statesman*, says: The mines belonging to the Golden Reel mining company are on the divide between Elk and Grimes' creeks, and about seven miles distant from Idaho City. The mill is located on Deer Creek, a tributary to Elk. Ten stamps are constantly kept running on ore from the Buffalo ledge, which yields satisfactorily. One team with two yoke of oxen is constantly employed in hauling ore and wood for winter use. Deer Creek supplies an abundance of water during all seasons of the year. The ore from the various mines yield from thirty to forty-three dollars per ton. The machinery is got up in the most workmanlike manner, with an engine of 20-horse power. . . . In the Buffalo ledge there is a tunnel on the east side of the divide 125 feet deep to a shaft of eighty feet in depth, from thence a continuance. From the shaft of ninety feet on the west side of the divide, a tunnel of 125 feet is run on the ledge. Another tunnel is commenced, which will, when completed, tap the ledge at a depth of 240 feet below the surface. Ledge from three to four and a half feet wide. . . . The Stevens' ledge is over thirty inches wide, and has a shaft on it of over 135 feet, with two drifts of forty-six to sixty feet each. . . . The Golden Reef No. 1 is thirty inches wide; has a shaft on it of thirty feet, with bottom drift of the same distance. The next opening will be over sixty feet from the surface. The Golden Reef No. 2 is a ledge of sixty feet in width, of a talcish nature—the pay rock lying in deposits of a spider-web nature. The tunnel on this ledge is 170 feet in length, drifted at right angles sixty feet to a ledge, and continued along foot wall forty feet, and along the hanging wall thirty feet. The Golden Reef No. 3 is four feet wide; shaft thirty feet. . . . The Lucky Bill is a new ledge, and has a shaft of thirty feet on it. One ton of the rock has been crushed which yielded thirty-four dollars. The ore from the various ledges have yielded as follows: Buffalo, thirty dollars per ton; Stevens, thirty-five dollars; Golden Reef, forty-two dollars. Wood in abundance, of the best quality. Water the whole year round without expense. The expense of extracting, delivering and reducing the ore is only \$10 per ton, notwithstanding the high price of labor and subsistence. The distance from the mill to the several mines is three-quarters of a mile. . . . Other mills are in operation in this vicinity. The Illinois and Gambinus ledges are constantly worked with success. Others are being prepared to receive machinery which is on the road from the East. . . . The creek claims are in full blast, and will continue so until interfered with by Jack Frost.

MONTANA.

From the *Post*, of August 4th, we gather the following: On Alder gulch, the California company are working very successfully. Dunneau and McGovern are also doing well. McDermitt is sluicing some good looking dirt, and expects to make a big clean up this week. Levi Lusk has quite a number of hands employed, and seems confident of taking out a "pile" ere the season closes. The company at work on Rummer Dan's bar, below here, are

taking out big money, having their ground well opened and working it with hydraulics. . . . Capt. Ralph Bledsoe, recently from Idaho Territory, left here on Wednesday morning, with a party of two hundred miners, for the purpose of prospecting the Wind River mountains. It is generally believed that these mountains abound in minerals, but they have hitherto been unprospected on account of Indians. . . . Twenty-eight newly discovered quartz lodes were recorded in five days. . . . Rents are rising in Virginia City. . . . S. D. Bennett's quartz mill, for Summit district, has nearly reached its destination. . . . We learn from Mr. Patton who has just returned from Ramshorn, that Thomas Dryansore, owner of the Monitor lode, is running a 12-stamp mill, and made a run of \$250 a cord. . . . A nugget of pure gold, weighing nineteen ounces, was taken out last week, in the dry gulch lately opened near the head of Bivins. . . . On Thursday last, we were shown a fine prospect taken from Granite gulch, situated six miles northwest of this place, of forty-five cents, from two pans of dirt which were obtained, one from the bed rock, and the other five feet above. Five hydraulics will be in operation in eight or ten days.

In Summit district, the Seneca Falls mill has been sold to a New Yorker, who will soon put it in operation. . . . The Scranton have erected a fine stone mill at the foot of Kearsargo hill. This mill is supplied with a Douglas Crusher and a Dodge Re-grinder, and shaking tables. They are now taking quartz from the Bryson lode. . . . The Excelsior mining company, in French gulch, are now setting up a 20-stamp mill, with all the needful amalgamators. B. F. Christenot, has machinery for two mills on the way here—on a crusher, the other stamps. . . . We learn that the St. Louis company has made heavy purchases in Summit, with a view to putting one or more mills thereon. Conner and O'Neil have a stamp mill *in transitu*, which will arrive probably in September. . . . In Hot Spring district, the stamp mill and amalgamators of the Hosmer company, of New York, will be erected upon the lodes discovered by Hall and Spaulding. . . . Mr. Atkins, agent of the Gold Ore company, of New York, is now on a visit to this district, with a view to select and develop property, preparatory to the arrival of machinery, early next spring.

Letter to same paper from Blackfoot, says: The mines still hold good around Carpenter's bar, and Hog'em flourishes. Understand very good placers have been discovered at and in the vicinity of Nevada creek, between this place and Jefferson.

A twenty-three mile ditch, of the capacity of 3,000 inches, to bring water from the Passamari river (stinking water) to Alder creek, is now being surveyed.

The Columbia *Citizen* of August 18th, quotes from a private Montana letter: "I arrived in Helena on the first of June, in company with several others. I started on the third, on a prospecting tour, and we are on it yet. We have tried what is called the best mines, but have been unable to find anything to pay us, and I am of the opinion that we shall have to give it up. There are at least ten thousand men prospecting in these mountains, with about the same success.

I promised to write to you what I thought of this country, and I must say that I have been disappointed. 'Tis true that there are some good claims here, but, in my opinion, all the mines in this Territory are not worth so much as old Tuolumne in her palmy days. * * If you or any of my friends have any idea of coming this way, take my advice and stay at home. Or, if you are not content in Tuolumne, and must have a change, go any where but to Montana. Some of our party are working out by the day, having become disgusted with prospecting; and, you may be sure we shall all leave as soon as practicable.

There may be more mines discovered here, but from all I can learn by diligent search and careful observation, I am of the opinion that this is a poor country for mining."

The *Republican* says that L. G. Turnley, the present owner of the Park mill, has put it in complete repair, and has been running a week on fourth class rock from the Sultana. He cleaned up over one thousand dollars.

OREGON.

The largest lump of ore we have ever heard of being found in the Northern mines, says the Dalles *Mountaineer*, was taken out a few days since on Olive creek. It weighed eighty-two pounds, and had fifty pounds of pure gold.

ARIZONA.

The *Alta* of 19th inst., says: A mercantile firm in this city has received from La Paz a letter of the date of August 8th, thirty-six days later than any which have come by mail. * * Wm. Thompson, Superintendent of the Great Central mine, has commenced to smelt copper at Williams' Fork. By information from an eye witness, his furnaces are a success. The copper obtained is said to be 90 per cent. We have seen a small sample of it, which looks

(Continued on Page 123.)

Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

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Canvassing Agents.

Our FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the Mining and Scientific Press in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1886.

Mr. O. P. Truesdell will act as our Corresponding Agent and Solicitor in the interior of this State, from this date. August 25, 1886.

Mr. E. F. Dewey is duly authorized to receive subscriptions and advertising, and transact business for this office. August 18, 1886.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. San Francisco, Jan 11th, 1886.

Mr. L. N. Hudson, is authorized to solicit subscriptions, advertising, etc., for the Mining and Scientific Press, in San Francisco, and to receipt for the same.

San Francisco:

Saturday Morning, Aug. 25, 1886.

AN ETHNO-HISTORICAL SOCIETY, has just been organized and incorporated in this city. John W. Dwinelle has been elected President; J. W. Winans, Treasurer; Louis R. Lull, Secretary; and H. H. Haight and John T. Doyle added to the offices, constitute the first Board of Trustees. The workings of the Society are divided into three sections, namely: Ethnology, History and Geography. The formation of such a society must be taken as an increased interest in the cause of general science among our citizens. Situated in and building up as we are, a new commercial center, midway between the new world and the old, the fields of science and research about us are new, rich and extensive, and when properly worked cannot fail to yield a most abundant harvest.

The ethnologist will find on the Pacific Coast and neighboring islands, almost illimitable ground for research and study; while unearthed from beneath the immense drift deposits of California, he will have placed before him the remains of races and families of men which must be referred to a period, the date of which, when considered by the geological changes that must have been wrought since they lived; would seem to place the earliest European human remains in comparatively modern times. The field of historical research is already badly in need of earnest and efficient laborers; and we doubt not the record of the society will soon show important progress in that direction. The geographical section is wide, important and inviting; and we presume that ere another summer passes away, among other facts of interest, the observations and discoveries of the Russo-American Telegraph Expedition will be fully collated, under the auspices of the society, and the work of this section be inaugurated with proceedings and revelations of unusual interest.

SUSPENSION.—In answer to several inquiries with regard to the monthly "Miner," published by the Mining Bureau Association of this city, we can only say that no number has been issued since the first of July. Whether the suspension is permanent or merely temporary, we are not informed. A call for a meeting of the members of the association for July 9th, to consider the feasibility of continuing the same, failed to bring together a quorum. What steps, if any, have since been taken in that direction we have been unable to learn.

MECHANICS' INSTITUTE.—At a meeting on Monday evening last, the directors were authorized to mortgage the property of the Institute, and borrow the necessary money to complete the new building—not to exceed the sum of \$40,000.

IMPROVEMENT IN STEAM-BOILERS; SUPERHEATED STEAM.

The boiler of a steam engine usually costs more than the engine itself, and considering the wide use and indispensable service of this great reservoir of motive power, there is no instrument more imperfect, or for the improvement of which there is so great a field for the employment of inventive genius. A steam boiler of ideal perfection should secure complete combustion, so as to obtain all the heat which the fuel will yield, and should be able to convey that heat to the water, so as to form all the steam due to its application, and should, furthermore hold the heat, so developed, in the steam with perfect security until it has been applied to the engine.

How far short of this perfection the best constructed boilers of the present day come, is most painfully apparent to every engineer and mechanic. There is much reason, however, for believing that the invention of Mr. Danford, of Geneva, Illinois, to which allusion has been several times made in these columns, is a long step in the right direction, and an important one. This invention is nothing more nor less than the application of superheated, instead of saturated steam to motive purposes. The tremendous effects of a small quantity of water suddenly converted into superheated steam has long been known and remarked upon; but until Mr. Danford's invention, no device has ever been suggested by which this tremendous power could be controlled and utilized. The Lenoir gas engine ought to have led to such a discovery, but it does not seem to have done so. Danford's invention consists in suspending a hollow cast iron globe, of small diameter, in the midst of a furnace, and injecting into it just water enough to make the requisite quantity of steam to drive the piston one stroke. The quantity required for that purpose is very small, and necessarily so; for no boiler, of the ordinary mode of construction, could be made strong enough to hold a large quantity of such steam as is employed for this generator. The attempt to do such a thing would be preposterous.

It is said that several of these engines have been put up in the Eastern States, and have been found to work well, at least for a time. One has also been constructed at the Union Foundry in this city, for an agent of the Danford company, and experiments have been made with it at the wood yard on the Long Bridge, but, for some reason, it has not yet been found to succeed so well as to admit of its running for any considerable length of time. The persons having it in charge, however, are confident that the difficulties, which are merely mechanical in character, will soon be obviated. The experiments thus far seem to have proved that there is very great economy in this mode of applying steam, although we are not inclined to admit, as fully authentic, the reports of the Chicago trial.

The difficulty, in this city, appears to be to regulate the jet of water to the amount of steam required for instant duty. Another obstacle encountered is the imperfect lubrication of movable steam joints when the steam is working at a temperature of from four to five hundred degrees, and with a corresponding pressure. The interest excited by this invention, and the importance of making it a success, will not, however, allow any mere mechanical hindrance to intervene, to obviate which is within the reach of possibility.

Already we have no less than four inventors in the field, each claiming for his invention priority in time or superiority of design. Mr. Danford's name was first publicly connected with the invention; but we have also a Californian, Mr. B. F. Harris, of this city, who claims both precedence and superiority of design over Danford. Mr. Harris filed a caveat for the principle of employing steam, to be immediately used as fast as generated, in driving the piston of an engine, anterior to any appearance of Danford at the Patent Office. His caveat, however, was incorrectly filed, as an improvement to the steam engine instead of the steam boiler; by reason of which he was

not notified of Danford's application until after a patent was issued to him. His priority of right is now before the Commissioner of Patents for investigation, through the agency connected with this office.

A Mr. Attwood and a Mr. Conant have each, also, either made application or obtained patents, which are said to conflict more or less with Mr. Danford. It is reported, however, that a union of interest has been affected between Danford and Attwood. We are not aware of the peculiarity of Mr. Attwood's invention. The inventions of Mr. Harris and Mr. Conant appear to be quite similar in character, both differing from Mr. Danford in the important particular, that while the former use heated coils or tubes, and a double generator, where the steam is first obtained as "wet steam," and subsequently changed to superheated; the latter, by the use of a simple "rose jet," converts his water instantly into superheated steam. Messrs. Harris and Conant claim a large economy of fuel and a great excess of power over Mr. Danford, as well as a greater durability of tubes and receiver.

The question of the possibility of the employment of superheated steam for motive purposes, appear thus to be in a fair way of being fully decided, and at an early day. If it can be made to work, and be properly regulated, it will completely revolutionize steam power, and reduce its cost almost to the minimum of the power theoretically due to the amount of fuel employed.

CALIFORNIA MINING INVENTIONS IN AUSTRALIA.—The Australians are giving full credit to the superiority of California processes for saving gold, over anything yet attained in that country, or elsewhere out of California. The Wheeler pans, especially, are creating much interest among mining men there, as we learn from Dicker's *Mining Record*. That paper states that Mr. Farmer, formerly of this city, after some preliminary experiments for establishing the value of this invention for gold saving, has organized a company at Sydney, which is about erecting machinery to work over the refuse tailings from the different quartz mills on Bendigo. They have already purchased, conditionally, tailings in different parts of that region, to the extent of 400,000 tons, and purpose erecting machinery in other districts as soon as that already in process of erection has been placed fully under way. Arrangements have recently been made, says the *Record*, with the Messrs. Langlands, of the city of Melbourne, for the ground whereon to erect an engine and set of pans, so as to give the public an opportunity, at that point, also, to witness the operation of the machinery, and judge of the value of this new process for saving gold. Tailings will of course be brought to that city from the mines. It was the intention of the parties at first to sell the pans to the different quartz mills; but the company has finally concluded to change its original purpose, and go into the present extensive operations on their own account. The pan has been patented in all the mining districts in Australia.

The *Record* is of the opinion that the quartz of Australia is not so fully charged with sulphurets as that of California and Colorado, and for that reason fears that the working of the pans, when they come to be put to continued service, may not realize the anticipations which have been formed from experimental trials. We presume that by this time the Australians have become fully satisfied that the pan is nearly if not quite as essential in working quartz with free gold only, as for working that which is highly charged with sulphurets. Such is the experience of miners in this State. No quartz mill in California is now considered anything like complete without pans of some kind.

TO CORRESPONDENTS.—We acknowledge the reception of a very interesting letter from Mr. L. Prevost, with regard to his projected enterprise of silk manufacture in this State, which will appear next week; also, a communication upon the patera process in lower California, and another letter from our Sierra correspondent "Vijador."

DR. AYER'S PROCESS.—The *Amador Ledger* of the 18th inst., says that the process devised by Dr. J. C. Ayer of Lowell, Mass., for desulphurizing ores, and obtaining the precious metals therefrom, has been tried at two different mills in that county. It will be recollected that a large company was formed in New York some eighteen months ago, which bought this process, and issued proposals for selling the right to use the same; giving as endorsers of its value and practicability, the names of Professors Silliman and Torrey, and Dr. Hayes of Boston. In our issue of July 22d, 1865, we ventured to call in question the value of the process, and expressed surprise that such men as the gentlemen named, could be induced to lend their names in aid of such a project. In a later issue, (October 21st, 1865), we published a letter from Dr. Ayer, in which he complained of the eaveriness of our criticism upon his discovery. In reply, without expressing any dissent from our previous opinion, we admitted a willingness to await practical results therefrom. We now have them very briefly, but somewhat tersely stated, in the following paragraph from the *Amador Ledger*, of the 18th inst.:

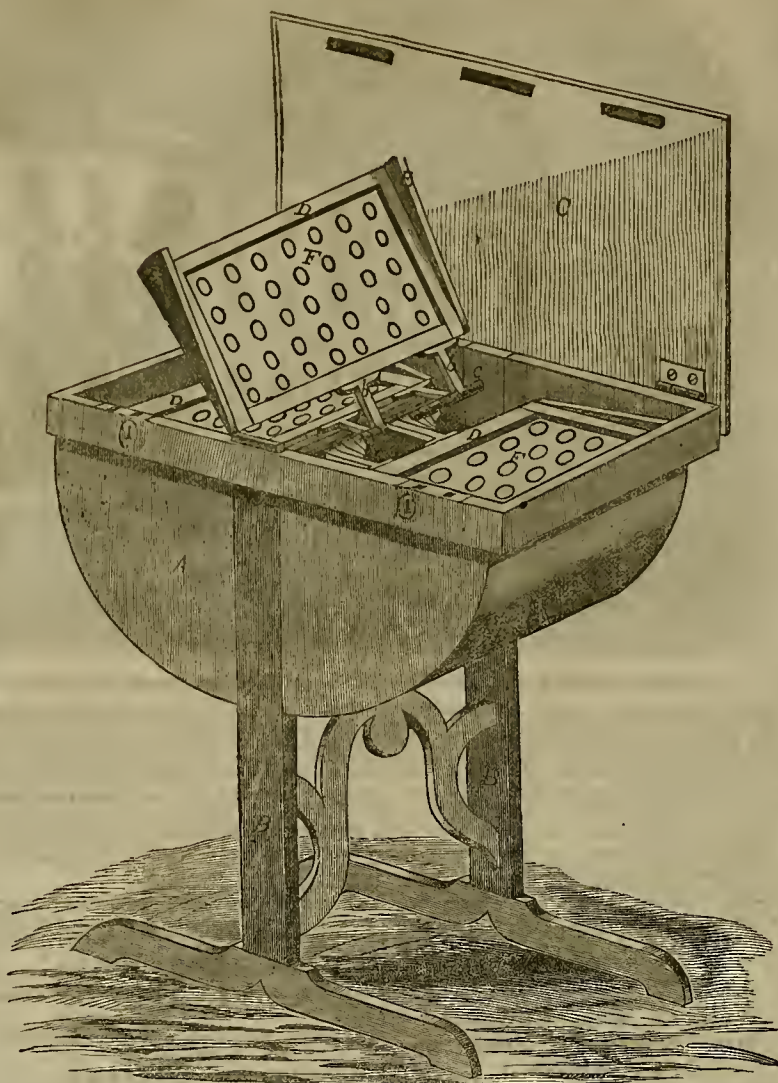
The very astounding process [Ayer's] is a "hilk" of the first water—having been tested to the tune of many thousand dollars at two different mills in this county.

If quartz operators and others engaged in expensive and intricate metallurgical operations, would take the most ordinary steps to inform themselves with regard to the various "processes" in which they propose to engage, they would often save themselves many thousand dollars. We have repeatedly warned the public to beware of worthless inventions and processes, and have often pointed them out, and shown how and where such information as they needed might be obtained, at very little or quite free of cost. Some we know have profited by such advice; others, thinking that five dollars a year was too much to pay for such information, have gone in blindly, and lost their thousands. The number of such foolish victims, we regret to say, is constantly increasing.

THE HAMILTON GOLD AND SILVER MINING COMPANY.—We have received the prospectus of the above named company, whose principal office is located at 224 South Fourth Street, Philadelphia. The mines of this company are twenty in number, and are located in the Mammoth and North Union mining districts, Nye county, Nevada. We made an extended notice of these mines when first discovered, based upon a large quantity of very rich and rare specimens therefrom, which were brought to this city. The capital stock has been fixed at \$1,000,000, divided into 200,000 shares of five dollars each. We notice among the officers and directors some of the leading men of Pennsylvania. The prospectus before us sets forth a brief description, in general, of the district where the property is located, as well as a more particular description of ten of the principal mines, written by A. Blatchly, mining engineer of Austin, Nevada, and several others by J. P. Hutchinson, also a mining engineer of the same place. The managing director of the company is Hon. Robert W. Hamilton, of Nevada.

DR. D. J. MCGOWAN is engaged in making a hasty examination of the mineral, agricultural and physical resources of this and our neighboring State of Nevada, previous to his departure for China, where he hopes to be of some service to the residents of the Pacific Coast, in extending our commercial intercourse with the nations of Eastern Asia. We notice among the published proceedings of the Board of Aldermen, for Monday last, that the Special Committee, to whom was referred the address of the Doctor, delivered before the Board on the 6th inst., made a written report, thanking him for the same, recognizing the importance of the work in which he is engaged, and suggesting the importance that means should be taken by the State Agricultural Society, and by the Chamber of Commerce of this city, to aid him in his undertakings.

Norbert Landry's Coin Album.



(Patented as a Coin Holder.)

This Album can be made of any desired size, to Preserve and Display a Hundred or Thousands of Coins.

Full information may be had concerning this interesting invention, by addressing the inventor and patentee, Mr. NORBERT LANDRY, San Francisco. An editorial description of the Machine will be found in the MINING AND SCIENTIFIC PRESS of August 11th, 1886. A CALIFORNIA "NOTION,"—At the meeting of the Boston Nautic Society, last week, a member presented to the Society, in behalf of the inventor, Norbert Landry, of San Francisco, a coin album—an ingenious invention, designed for the keeping and exhibition of coins. The pieces are placed between two sheets of glass, set in wooden frames, which revolve on an axle within a box, and occupying but half a circle, so that the box can be shut. On opening the box, successive layers of coin appear. The members of the Society examined the Album with much satisfaction, and passed a vote of thanks to Landry.—Boston Correspondence of the Sacramento Union. 7v13-1t

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The above is a rare opportunity for parties desirous of engaging in an active business that will pay a large dividend on the investment. Satisfactory reasons given for selling, and all information desired can be obtained on application by mail, or otherwise, to

G. F. SMITH,

Notary Public and Searcher of Records, office "Beatty House," San Leandro. 8v12 1m

CAUTION!—TO WHOM IT MAY CONCERN.—The public are hereby notified that a patent was allowed Dec. 27th, 1884, and issued June 27th, 1885, to Professor HENRY WURTZ for the use of Sodium and Amalgam thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY,

OF NEW YORK,

Assignees of letters patent granted to Prof. HENRY WURTZ, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, can be had on hand.

The terms and conditions upon which rights to use the process are obtainable, can be had on application to WM. SLOSSON, Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 8v13

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(Reported for the Mining and Scientific Press.)
California Academy of Natural Sciences.

REGULAR MEETING, Monday, Aug. 20, 1866.

Dr. Kellogg in the Chair.

Ten members present.

Minutes of previous meeting read and approved.

Messrs. W. H. Knight and A. Godeffroy were elected resident members.

Mr. John Swett was nominated for resident membership.

Donations to Library: Bibliography of North American Cenozoology; Cretaceous Reptiles of the United States, by Leidey; Paleontology of the Upper Missouri—Invertebrate, part I; List of the Coleoptera of N. A., part I, by Dr. Leconte; New Species of N. A., Coleoptera, part I, by Dr. Leconte; Researches upon the Hydrobiidae and allied forms, by W. Stimpson, M. D.; Monograph of American Corbiculidae, recent and fossil, by Temple Prime; Land and Fresh Water Shells of N. A., parts II and III, by W. G. Binney; Check List of the Invertebrate Fossils of N. A., eocene and oligocene, by T. A. Conrad; Check List of the Invertebrate Fossils of N. A., cretaceous and jurassic, by P. D. Meek; Catalogue of Minerals, with their formulas, etc., by P. Eggleston; Instructions for research relative to the Ethnology and Philology of America, by George C. Gibbs.

All of the above presented to the Academy by the Smithsonian Institute.

Journal of the Royal Horticultural Society of London, vol. I, part II: new series; Map and Text of Geological Survey of Sweden.

Prof. Blake read a paper upon a "New Locality of Fossils in the Gold-Bearing Rocks of California," and exhibited specimens of Ammonites from a cut on the line of the Central Pacific Railroad, near Colfax. Although the specimen exhibited was quite perfect, it was not sufficiently so to enable the septal to be seen. Prof. Blake remarked that these fossils were undoubtedly of the secondary period, and that they were apparently specifically identical with those from the American river, in the same vicinity, of which he had sent photographs to Mr. Meek, in 1863, and afterward noticed the same at a meeting of the Academy in September, 1864; he also thought them identical with the species found at Bear Valley, Mariposa county. Prof. Blake also exhibited the tooth of an extinct elephant, a *molar*, found in the auriferous gravel near Michigan Bluffs; also, shark's teeth and other marine remains from Tulare Valley; these remains were found by him at an elevation of at least twelve hundred feet above the sea, and probably belong to the post-pliocene period. Prof. Blake alluded to a "Quarry of Gold-bearing Rock" in Placer county, known as the Banker or Whisky Hill mine, where no regular quartz vein exists, and the rock of the hill is profitably worked; some forty tons per diem are crushed, yielding from two to twenty dollars per ton—averaging from five to six dollars per ton.

Mr. Stearns remarked the discovery of additional species of marine shells at Baulines Bay by Dr. Kellogg and W. Harford; also, several species of *Helix* at Belvidere ranch, near Capt. Morgan's house on the south side of Baulines Bay.

Prof. Blake mentioned that the tooth of a mastodon had been found near Mount Diablo, by Capt. Stevcs.

Mr. Stearns read a paper upon the anatomy, geographical distribution, etc., of the snail, and the uses made of the same as medicine and for food, both in ancient and modern times.

Prof. Blake stated that he had in his possession a portion of a human skull, said to have been taken from a depth of two hundred feet below the surface, near Tuolumae county.

Adjourned.

T. H. BLOOMER, Secretary.

In our columns to-day will be found an advertisement of W. H. ALLEN, who has opened an office as Law Adviser and for general Collections, etc. We take pleasure in calling attention to his card, knowing his ability and promptness in his line of business must commend him strongly to all who call on him.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & CO., Patent Agents,
San Francisco, May 1st, 1866.

Illegal Supplemental Advertising.—It would be well for Mining Companies, whose advertisements are repeatedly appearing in the Supplements of daily papers, to inquire into the legality of that class of advertising.

THE MINING PRESS comes loaded with a rich variety of mining intelligence, and all sorts of scientific interesting matter.—[Amador Ledger.]

THERE are many varieties of swallows, as our readers must know. None are more interesting than the common, lively little eaves-swallow, which builds its nest in villages under the eaves of our barns. A good many interesting stories are told of them.

One writer describes to us how a sparrow took possession of a nest which a young couple of swallows had just finished, and obstinately refused to get out. The injured couple soon succeeded in letting all their neighbors know about it, and they were all observed to fly away. In the course of half an hour they returned, each with its little dab of mud, and literally plastered the sparrow in his stolen house, where he no doubt died of hunger. The writer has seen the swallows collect and tear to pieces a nest which had been appropriated by a sparrow, and in which it had raised its young.

SOAP STONE CROCKERY.—Abel Stearns, Esq., who has been a resident of California for nearly forty years, informs us when he arrived here the pots commonly used in cooking were cut out of soap stone, found on one of the Santa Barbara Islands—Santa Catalina, we think he said. These pots or crocks were an inch thick at the side and two inches at the bottom, and had a vast amount of service in them. When once heated through, a long time elapsed before they would cool off.

LEARNING is like a river, whose head being far in the land, is at first rising little, and easily viewed; but still, as you go, it gapeth with a wider bank, not without pleasure and delightful winding; while it is on both sides set with trees and the beauties of various flowers; but still, the farther you follow it, the deeper and broader it is; till at last it enwavers itself in the unfathomable ocean. There you see more water, but no shore—no end to the liquid, fluid vastness.

It is the vice of the unlearned to suppose that the knowledge of books is of no account, and the vice of scholars to think there is no other knowledge worth having.

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STEAM ENGINES AND QUARTZ MILLS
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Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.
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AMALGAMATOR AND SEPARATOR,
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WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
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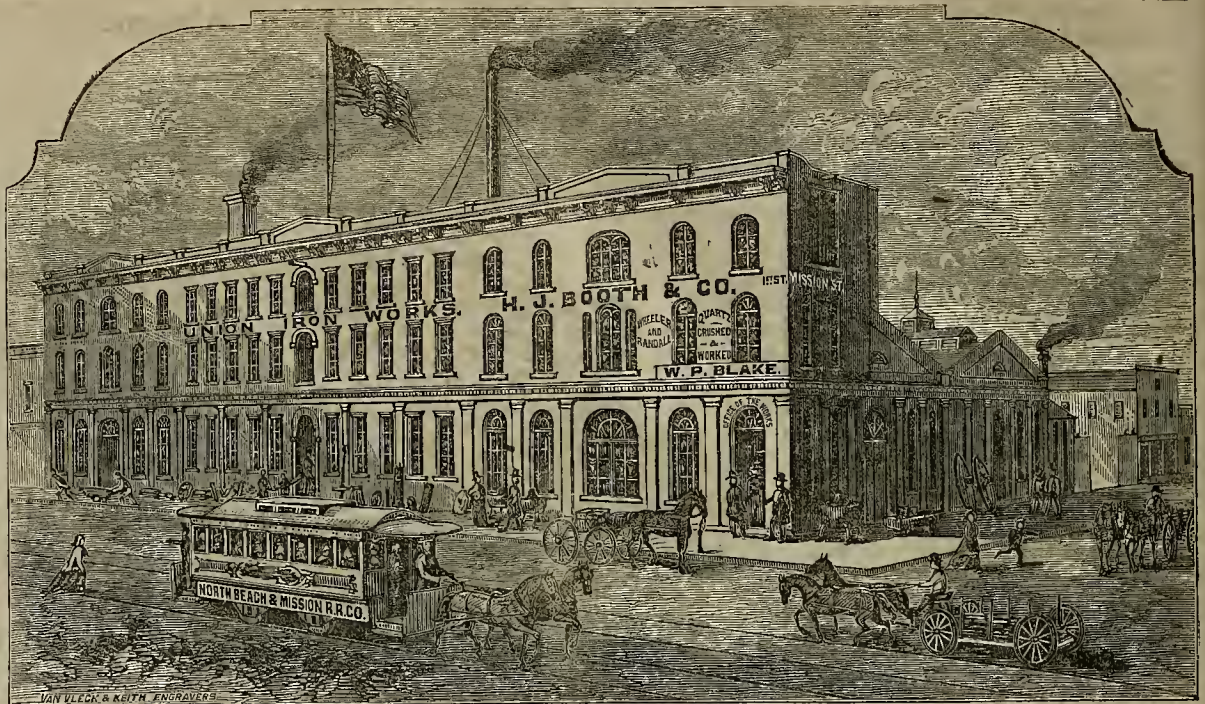


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ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.
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PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

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OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.
Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.
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First, Natoma and Fremont Streets.

IRON FOUNDERS, Steam Engine and Locomotive BUILDERS.

Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of a new shop on Fremont Street, doubling the capacity of the original establishment. For and turning out machinery promptly and efficiently, are now unequalled in the State. Their Boiler Works have also been enlarged correspondingly.

The Company are prepared to execute orders for all classes of Machinery and Boiler Work, such as

Mining, Steamship, and Steamboat Machinery,
Railroad Machinery, Flouring Mills,
Locomotives, Quartz Mills,
Car Trucks, Sugar Mills,
Car Wheels, Saw Mills,
Housings and Irons; and
Manufacturing Machinery of Every Kind.

Sole Manufacturers of

HEPBURN & PETERSON'S REDUCING PAN AND AMALGAMATOR
BEATH'S AMALGAMATOR;
HESSE & MOORE'S IMPROVED HOWELL QUARTZ CRUSHER;
BAUX & GUIDO'S AMALGAMATOR AND SEPARATOR;
FITCHER'S QUARTZ CRINDER AND WATER WHEEL;
JOYNER'S IMPROVED WATER WHEEL;
LEFFEL'S AMERICAN DOUBLE TURBINE WATER WHEELS.
STEVEN'S PISTON PACKING RINGS.

They have also a large assortment of Patterns for Pumping and Hoisting Machinery, Gearing, Pulleys, Water Mill Irons, Hydraulic and Screw Presses, Retorts, Furnaces, Grate Bars, House Fronts, Ornamental Fence Posts and Paling, Stove Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best Hard Iron. Quartz Screens of Russia Iron Punched to Order. 27

GEORGE T. PRACY, MACHINE WORKS,

Nos 109 and 111 Fremont street, near corner of Mission,

OPPOSITE MECHANICS' HILL,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL

And Quartz Machinery, Printing Presses,

—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND

REPAIRED.
Special attention paid to Repairing. 23v12 3m

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, a large and complete machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our number is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 13v12 3m

J. F. FLYNN. HENRY FRANCE.

FLYNN & FRANCE, EMPIRE FOUNDRY.

221 Mission street, below Beale, San Francisco, PRACTICAL IRON FOUNDERS, having unequalled facilities for the manufacture of LAGER FANOV CASTINGS, particular attention will be given to this department. We manufacture School Seats and Oesks, Agricultural Implements, Railing, Ship Castings, Stake Irons, and all other kinds of Heavy and Light Castings, with dispatch. The patronage of the public is respectfully solicited. 21v12 1y

HANSCOM & CO.,

{ T. PENDERGAST. }
{ H. S. SMITH. } { W. W. HANSCOM. }

Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.

Etna Iron Works!

Practical Machinists and Iron Founders,
MANUFACTURE

STEAM ENGINES,

QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS,

Dunbar's Improved Self-Adjusting

PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,

The best of the kind now in use in this State or anywhere else

Wheeler & Randall's New Grinder and

Amalgamator,

Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,

Giving greater power at lower cost, than any wheel in use

Said for one of our clients, giving five tables.

All wheels warranted to give the power as set forth, or the money will be refunded.

Sole makers for this coast of the "Pendergast

White Iron Stamp Shoes and Dies.

None genuine unless obtained from us. Every one warranted.

Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited. 13v12

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Mining

Pumps, Amalgamators, and all kinds of

Machinery.

Nos. 45, 47 and 49 First Street, between Market and Mission Street, San Francisco. 3-37

NEPTUNE IRON WORKS,

Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MARINE,

Locomotive,

And all kinds of

HIGH PRESSURE

Steam Boilers

MADE.

All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.

All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc.

Manufactured to Order.

Old Boilers Repaired

D. CAMERON.

6v12 1y

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,
14v11
SACRAMENTO CITY

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,
14v11
SACRAMENTO CITY

SAN FRANCISCO

Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of

Marine and Stationary Engines

Quartz Machinery, Saw, Flour and Sugar Mills, Milling

Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—

Wine, Cider, Cotton and Tobacco Presses

of the latest Improved Patterns.

Brodie's Improved Patent "BLAST" SEPARATOR,
for Dry Crushing; Baux & Guido's Amalgamator and Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston

Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

MACHINERY OF ALL DESCRIPTIONS,

Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.

6v11 1y

DEVORE, DINSMORE & CO

Repairing promptly and neatly attended to.
13v11

JAMES MACKEN,

COPPERSMITH,

No. 226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
13v11

JOHN LOCHHEAD'S

Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT

to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,

PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 23v12 3m

Mining Summary—Continued from page 119.

very well. The first charge yielded about 200 pounds of that description of copper by the estimate of our informant.

COLORADO.

From the Denver News of August 8th, we clip the following: Charley Utter arrived from the Bear Valley mines last evening, bringing specimens of the gold. From his statements, and our latest advices, we are led to conclude that the mines of Bear river are not a paying institution. Five men with a sluice succeeded in taking out fifty cents in one week. Another sluicing party of about the same number were not quite so lucky, getting only forty-three cents in return for a week's labor. Many of the miners are on their way back thoroughly disgusted with the country.

The gold is fine quality, and has a beautiful color. Not over fifty dollars has been taken out of the mines by the whole force there at work, numbering not less than seven hundred men. The lodes, if any exist, from whence the gold comes, have not been discovered. There are some few persons who yet have hope in the mines, but the great majority are leaving.

The Journal of the 4th, has these items: Mr. Morse, for the Gold Rock company, is sinking on the Mammoth lode, at the rate of ten feet a week. At 100 feet from the surface he has a crevice between walls seven feet wide with five feet of pay dirt, worth ten to twenty-five cents a pan. He raises by windlass, has an engine on the ground which will soon be put up. Captain Cox, for the Benton company, is setting up a large engine and putting in a six-inch pump. His shaft at the mouth of adit, right in Packard gulch, is sixty feet deep, has fourteen inches solid ore, which yielded \$108 a ton in gold per Lyon's smelting furnace. The cross courses let in so much water that it has been impossible to mine to advantage, so a pump is being put in. An average of four assays of Fiske ore showed at the rate of nineteen ounces of gold and thirty-three of silver per ton, \$316.15, coin value. The Sterling company are preparing to work their Fiske property. We learn that the Eagle company are going to resume mining on the Gold Dirt. Also that the Pleasant Valley company, whose works were almost destroyed by the shower of last Thursday, are going to immediately repair damages. They were making handsome monthly dividends prior to the catastrophe.

UTAH.

The Colorado Journal of the 3d says: This morning 5,200 pounds of castings went from Langford & Co.'s Foundry to Salt Lake. They are for Gen. Conner's reduction works, about forty miles west of the Mormon city, and consist of American Hearths for smelting galeous ores, with some necessary accompanying fixtures.

STOCK CERTIFICATES,
STOCK TRANSFER JOURNALS,
STOCK LEDGERS,
ASSESSMENT RECEIPTS.

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the MINING AND SCIENTIFIC PRESS.

BROWN & BEADLE,

Offer their services to

INVENTORS AND THEIR ASSIGNEES,

PATENT SOLICITORS.

They will make Preliminary Examinations in the Patent Office, with a view to ascertain the Patentability of any Invention that may be submitted to them for that purpose; will prepare the necessary papers for those who wish to make Applications for

Patents for their Inventions,

EXTENSIONS OR REISSUES OF PATENTS

Already granted; will act as Attorneys in presenting Applications at the Patent Office, and in managing them to a final issue; will draw up Assignments; will examine into the condition of Rejected Applications when desired to do so, and undertake the prosecution of such as may be considered patentable, and do whatever else is usually done by Patent Solicitors.

Address, P. O. Box 257, Washington, D.C. 7v12-3m

California Steam Navigation
COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE.
" CHRYSOPELIS.....CAPT. A. FOSTER.
" YONEMITE.....CAPT. W. BROMLEY.
" CORNELIA.....CAPT. E. CONCKLIN.
" JULIA.....CAPT. E. CONCKLIN.
One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.
Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SENAPAT, leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.
Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE,
President.

By Express.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co.'s tariff) on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Brynn Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

International Hotel,

JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNEY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$2.50 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FINE OF CHARGE, and to any part of the city for 50 cents. 2v12 F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL.

K Street, between Third and Fourth,
SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and finely ventilated. No expense has been saved to make it comfortable and pleasant for guests. Price of Rooms very low. Meals, 25 cents. 5v12-6m B. EISENMENGER.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals.....25 cents.
Board, per week.....\$4.00
Board and Lodging, per day.....1.00
Single Rooms.....50
Railroad Ticket Office and Stage Office on first floor. 7v12-3m A. J. SENATZ, Proprietor.

Rheumatism!!

READ IT! READ IT!!

SACRAMENTO, April 16, 1866.
H. BOWMAN—DEAR SIR: THIS IS THE FIRST WRIT- ing I have done in two years, and it affords me great pleasure to be able to use my pen in the service of those who are suffering, as I have suffered, by stating the following facts:
I have for two years and upwards been afflicted with CHRONIC RHEUMATISM, and until a few weeks ago I have never found anything that afforded me any relief. For three months of the time I was unable to feed myself, and for the last five months my arms have been so bent that I have not been able to dress myself. I was five months at the Warm Springs, at San Luis Obispo, and three months at a Hydropathic Institute in Stockton, and I have been under the care of six different physicians, in the vain hope of relief. About four weeks ago I was induced by a person who had been cured by it to try a bottle of RICHARD'S REMEDY FOR RHEUMATISM, and in less than twelve hours I experienced great relief. In a few days I was enabled to straighten out my arms, and I have been getting better and gaining in strength and flesh ever since. I have now the complete use of all my limbs, and, for the first time in two years, I am out of pain. I do feel for those who suffer as I have suffered, and if they will take my advice, they will lose no time in giving the REMEDY a trial. Yours truly,
GEORGE TAYLOR.

RICHARD'S REMEDY is for sale by
H. BOWMAN,
Druggist, Sacramento. 3v12
Price, \$2.50 per Bottle.

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the inqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced regulators. The Mining and Scientific Press Patent Agency has strictly complied with the requisitions of the Department, and properly filed all necessary papers as claim Agents.

Metallurgy.

BOALT & STETEFELDT,
Metallurgists and Mining Engineers

AUSTIN, NEVADA.

Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 1v11

G. W. MAYNARD. J. H. TIEMANN.

MAYNARD & TIEMANN,

Mining Engineers and Metallurgists,
210 Pearl street, New York,

CENTRAL CITY, COLORADO.
1v12-1y

Copper, Lead, Gold, Silver,
Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,

Agent for Townsend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.

Special attention paid to Gold Bearing Sulphurets. 5v10-3m

To Copper Miners and Others Interested in
the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Haskell, for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties buying Copper Ore, or will make arrangements to buy their ore, receivable at their mines. For further particulars, apply to JOHN N. KISDIN, 2v12 At Coffey & Riddell's, San Francisco.

MARTIN & CO.,

Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

PURCHASE OF COPPER ORES.

Assaying eight per cent. and upwards of Copper to the ton. We will make advances upon Ores of Copper. San Francisco, Post Office Box 1259. 2v

PACIFIC CHEMICAL WORKS

ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEM- selves for the purpose of carrying on the business of

Manufacturing Chemicals,

Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FALKENAU & HANKS,

Laboratory, corner Folsom and Center streets,
Mission Dolores. Office, 629 Washington street, San Francisco. 2v12-1m

EUROPEAN

METALLURGICAL WORKS,

Practical Mining School,
Bryant Street, between Third and Fourth,
SAN FRANCISCO.

THE Proprietors are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphuric, pyrites, and the (so-called) "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in the building all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as well as a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

S. P. KIMBALL, J. R. MURPHY.
1v10

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN
ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUPPLIES, ACIDS and CHEMICALS, constantly on hand. San Francisco March 6, 1865. 1v10-1f

NAPA CITY, May 9th.—Messrs. DEWEY & Co., Patent Agents, San Francisco: Yours of May 7th is at hand. I am pleased to hear of the receipt of our patent papers at the U. S. Patent Office, Washington, D. C. You have my fullest thanks for your energetic movements concerning the same. Respectfully, yours, W. W. LEVERING.

Capitalists, Attention!

QUARTZ MILL & MINING PROPERTY
FOR SALE

In Nevada County.

A NEW 8-STAMP QUARTZ MILL, 7 LEDGES AND 640 acres heavily timbered Land, near Eureka, Nevada County, are now offered for sale. The Mill is run by steam-power, and is in complete order for business. The ledges, which form the principal value of this property, are all large and well-defined, but require a further outlay of capital, in order to make them remunerative. For the lack of means to properly develop these claims, the present owners are disposed to sell the same for a reasonable price.

Capitalists wishing to engage in mining will find this a splendid opportunity to purchase a property that will bear rigid scrutiny, and offers superior inducements as an investment.

For address and further information, inquire of the Publishers of the MINING AND SCIENTIFIC PRESS, 605 Clay street, San Francisco. 2v12

HAYWARD, COLEMAN & CO.,

IMPORTERS AND REFINERS

Illuminating, Lubricating,
PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of MILL owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This oil will not smoke. Absolutely thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand. 5v 4v13-3m 414 Front street, San Francisco.

THE CALIFORNIA

Aerated or Unfermented
BREAD COMPANY.

Bakery on Folsom Street,
Between Tenth and Eleventh.....SAN FRANCISCO

MESSRS. TAGGART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in partnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit all orders for their truly wholesale and cleanly Bread. We have a sufficient number of delivery wagons at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily. Sundays excepted.

Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention.
Order box at C. J. Hawley & Co.'s Grocery, corner Second and Jessie streets; Rowland & Walker, 441 Clay street; Plumb's Carpet Store, Montgomery street, opposite Lick House; G. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the route-men like wise. We expect soon to be prepared to supply Pastry, like as the Boston Brown Bread, and Beans of the first quality. Due notice will be given.
The present Company is entirely independent of the former California Unfermented Bread Company, neither of them having been in any way connected with that company. We would cordially invite the public to make a visit to our new bakery. 4v13-3m S. R. BULKLEY, Business Partner.

Mining Notices—Continued.

Antioch Premium Petroleum Company,
Antioch, Contra Costa County, California.

Notice.—There are delinquent upon the following described stock, an account of assessment levied on the twenty-ninth day of June, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Tony Tuttle	25, 26	10	\$20.00
G. W. McWay	7	10	10.00
Frederick Niekirk	74	3	6.00
D. B. Norton	63, 81	5	10.00
J. O. Carter	19, 20, 63, 69, 113	35	hal 22.18
Russell Elder	11, 18	5	10.00
G. H. Seaton	85, 86	6	10.00
M. J. Chase	89	5	6.00
B. B. Gore	52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63	50	100.00
	111, 132		

And in accordance with law, and an order of the Board of Trustees, made on the twenty-ninth day of June, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, corner of Pacific and Battery streets, San Francisco, on the twenty-ninth day of August, 1866, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. B. GORE, Secretary.

Office, corner Pacific and Battery streets, San Francisco, Cal. au4

"Arbitra" Mining Company, Batopilas
District, State of Chihuahua, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment (No. 10) levied on the 28th day of May, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Mrs. Harriet W. Hendley	121	10	\$15.00
Mrs. Harriet W. Hendley	131	3	4.60
A. C. Hendley	13	15	22.50
A. C. Hendley	143	10	15.00
A. C. Hendley	145	5	7.50
A. C. Hendley	150	35	52.50
A. C. Hendley	152	20	30.00
Mrs. D. D. Shattuck	14	10	15.00
Mrs. D. D. Shattuck	183	3	4.50
Chas. F. Schulze	57	5	7.50
Chas. F. Schulze	58	5	7.50
Chas. F. Schulze	60	25	37.50
Chas. F. Schulze	202	9	13.50
R. R. Stoddard	98	3	4.50
R. R. Stoddard	197	1	1.50
R. R. Stoddard	221	10	15.00
Wm. G. Henderson	125	5	7.50
Wm. G. Henderson	130	10	15.00
Wm. G. Henderson	133	15	22.50
Wm. G. Henderson	175	8	12.00
Wm. G. Henderson	227	20	30.00
Wm. G. Henderson	228	20	30.00
Wm. G. Henderson	229	10	15.00
Wm. G. Henderson	234	4	6.00
Wm. G. Henderson	235	66	99.00
Thos. A. Hughes	158	25	37.50
Chas. F. Brown	208	6	9.00
Chas. F. Brown	209	4	6.00
Chas. F. Brown	212	5	7.50
Chas. F. Brown	213	10	15.00
Chas. F. Brown	219	4	6.00
J. N. Wilard	243	25	37.50
F. Thomas	246	121	181.50
F. Thomas	247	13	19.50
F. Thomas	248	15	22.50
F. Thomas	249	10	15.00
F. Thomas	250	13	19.50
Total		584	\$876.00

And in accordance with law, and an order of the Board of Trustees, made on the 28th day of May, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the 13th day of August, 1866, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. MARTINON, Secretary.

Office, 311 Montgomery street, up-stairs, San Francisco, California. jy28

POSTPONEMENT.—The above sale is hereby postponed until Saturday, 25th August, 1866, at the same hour and place. By order of the Board of Trustees.

A. MARTINON, Secretary.

Cordillera Gold and Silver Mining Company,
Chihuahua, Morelos Mining District, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1866, an assessment (No. 7) of one dollar per share was levied upon the capital stock of said company, payable immediately in United States gold coin, to the Secretary, No. 521 Washington street, San Francisco, California. Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirtieth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. R. REED, Secretary.

Office, 321 Washington street, San Francisco, Cal., near Front.

N. B.—Until further notice, all advertisements of this Company will appear in the Mining and Scientific Press.

POSTPONEMENT.—The publishing of the delinquent list is postponed until Saturday, the first of September, next, the auction sale to take place on Monday, the seventh day of September, 1866. By order of the Board of Trustees.

H. R. REED, Secretary.

Caution!—Cosala Silver Mining Company.

The following Certificates of Shares in the capital stock of the above-named Company, were sold to pay delinquent assessment and expenses of advertising and sales, on the twenty-eighth day of July, 1866, at the auction rooms of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, at twelve o'clock, noon:

In Name of	No. Certificate.	No. Shares.
Arnos & Dallam	557	20
James Jordan	25	5
Michael Scholl	479	10
Michael Scholl	480	10
Michael Scholl	577	10
H. H. Toland	105	123
H. H. Toland	122	100

Parties are hereby cautioned against purchasing the above described certificates of stock.

CHAS. BAUM, Secretary.

Office, 610 Battery street, San Francisco. au4

Coahortita Gold, and Silver Mining Company,
Sinaloa, Mexico.

Notice is hereby given, that a Special Meeting of the stockholders of the Coahortita Gold and Silver Mining Company, will be held at the Company's office, Room 3, second floor, No. 505 Montgomery street, San Francisco, on SATURDAY, the 25th day of August, 1866, at 10 o'clock A. M., at which a full representation of the capital stock is requested. By order of the Board of Trustees.

Jy28 T. W. COLBURN, Secretary.

Cosala Silver Mining Company, Cosala District,
State of Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1866, an assessment of one (\$1) dollar per share was levied upon the assessable capital stock of said Company, payable immediately in gold coin of the United States. To CHAS. BAUM, Secretary, at the office of this Company, No. 510 Battery street, opposite the Custom House, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the seventeenth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

CHAS. BAUM, Secretary.

Office, No. 510 Battery street, opposite the Custom House, San Francisco, Cal. au4

Diamond Copper Mining Company, Rockland
District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of August, 1866, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to R. H. RANDALL, Superintendent, at Crescent City, Del Norte County, Cal., to the Secretary, at the office of the Company, No. 33 Montgomery Block, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the eighth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the twenty-fourth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COLLIDGE, Secretary.

Office, 33 Montgomery Block, San Francisco. au4

Del Norte Comstock Company, Location:
Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of July, 1866, an assessment of one dollar and forty-five cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, No. 331 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twelfth day of August, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BUREN, Secretary.

Office, 331 Montgomery street, San Francisco, Cal. jy28

Dinna Gold and Silver Mining Company, Lander
County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of August, 1866, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately in United States Currency, to the Secretary, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the second day of November, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

N. C. FASSETT, Secretary.

Office, 402 Front street, San Francisco. au4

Eagle Quartz Mining Company, Location:
Works: Amador County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eleventh day of July, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J. B. Applegate	31	10	\$10.00
J. B. Applegate	100	10	10.00
J. B. Applegate	156	50	50.00
J. A. Carle	56	20	20.00
J. A. Carle	139	20	20.00
J. A. Carle	140	100	100.00
J. A. Carle	183	100	100.00
J. P. Dillip	26	10	10.00
J. P. Dillip	57	5	5.00
E. D. Dunham	184	15	15.00
S. H. Harris	137	100	100.00
John Herzog	144	30	30.00
G. H. Hockell	30	10	10.00
G. H. Hockell	35	20	20.00
I. R. G. Holt	135	20	20.00
A. A. Parlow	126	5	5.00
Sam. R. Wall	8	25	25.00
T. E. Ruffley	29	10	10.00
H. R. Reed	166	5	5.00
H. R. Reed	168	10	10.00
H. R. Reed	184	5	5.00
H. R. Reed	187	5	5.00
H. R. Reed	173	25	25.00
R. Williams	27	50	50.00

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of July, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the auction rooms of John Middleton & Son, 404 Montgomery street, San Francisco, California, on the fifth day of September, 1866, at the hour of 12 o'clock, M. of said day, to the highest bidder, for cash, in United States gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN M. BURNETT, Secretary.

Office, No. 10 Exchange Building, (713 Montgomery street) San Francisco, California. au4

Gold Hill Tunneling Gold and Silver Mining
Company, Location: Gold Hill Mining District, County
of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 31st day of July, 1866, an assessment (No. 8) of one dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, R. W. KENNER, 415 Montgomery street, San Francisco, Cal., or to the Superintendent, Mr. H. H. HERRICK, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the fourth day of August, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-ninth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. W. KENNER, Secretary.

Office, 415 Montgomery street, San Francisco, Cal.

A discount of three (3) per cent. will be allowed on all payments made on the above assessment on or before Friday, the 10th day of August, 1866. By order of the Board of Trustees.

R. W. KENNER, Secretary.

San Francisco, August 1, 1866. au4

Great Central Mining Company, Location:
Works: Yuma County, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Kellogg, James	175	50	\$90.00
Livingston, H. B.	124	20	20.00
Symons, John	274	40	40.00
Wheaton, Wm. R.	274	20	20.00
Wheaton, Wm. R.	274	20	20.00
Wheaton, Wm. R.	274	20	20.00

And in accordance with law, and an order of the Board of Trustees, made on the second day of July, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on the twenty-seventh day of August, 1866, at the hour of 4 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.

Office, No. 302 Montgomery street, San Francisco. au4

George Washington Gold and Silver Mining
Company, Silver Mountain District, Alpine County, Cal.—
Assessment No. 13.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of August, 1866, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, only.

Any stock upon which said assessment shall remain unpaid on the fourteenth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the first day of October, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

W. D. ROOT, Secretary.

Office, 338 Montgomery street, San Francisco. au4

George Washington Gold and Silver Mining
Company, Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that the regular Annual Meeting of the above Company, will be held on MONDAY, September 17th, 1866, at the office of said Company, for the purpose of electing a Board of Trustees, to serve for the ensuing year; also, for the transacting of any and all other business that may properly come before said meeting.

W. D. ROOT, Secretary.

Hansen Copper Mining Company, Location:
Del Norte County, Low Divide District, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1866, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at 609 Market street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighteenth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. S. SWEET, Secretary.

Office, 609 Market street, San Francisco. au4

I. X. L. Gold and Silver Mining Company.

Notice.—The Annual Meeting of the stockholders of the I. X. L. Gold and Silver Mining Company, will be held at the office of the Company, No. 335 Montgomery street, on THURSDAY, September 13th, at 10 o'clock, A. M.

JAMES G. DAYLEY, Secretary.

Kentucky Copper Mining Company, Mue
Felix District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of August, 1866, an assessment of one dollar per share was levied upon the capital stock of said Company, payable on the third day of August, 1866, in United States gold and silver coin, to the Secretary, at his office, 641 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-sixth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. BAUER, Secretary.

Office, 644 Washington street, San Francisco, Cal. au4

Lady Bell Copper Mining Company, Low Di-
vide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of August, 1866, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at 311 Market street, San Francisco, or to O. D. SQUIRE, Crescent City.

Any stock upon which said assessment shall remain unpaid on the third day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

C. HEYWOOD, Secretary.

Office, 311 Market street, San Francisco, Cal. au4

Nuestra Señora de Guadalupe Silver Mining
Company, Tayoltita District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 25th day of June, 1866, an assessment, No. 24, of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, E. P. FRIEDER, at the office, No. 210 Post street, or to the Treasurer, A. HANDELMAK, at his office, No. 337 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first day of July, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the 18th day of August, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.

Office, 210 Post street, San Francisco, Cal. j63j

Old Colony Silver Mining Company, Location:
Works: Austin, Reese River, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of August, 1866, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, 623 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the fifth day of October, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary.

Office, 523 Montgomery street, San Francisco. au4

Rattlesnake Gold and Silver Mining Company,
Spring Valley District, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of August, 1866, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, No. 315 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twelfth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the third day of October, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LONIS, Secretary.

Office, 315 California street, San Francisco. au4

Simpson Mining and Milling Company, Mokelumne
District, Alpine County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of August, A. D. 1866, an assessment of thirty cents per share was levied upon the capital stock of said Company, payable by the fourth day of September next, in gold coin of the United States, to the Secretary, at his office, south-east corner of Front and Jackson streets, up stairs, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fourth day of September next, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the twenty-fourth day of September next, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. BIGELOW, Secretary.

Office, south-west corner of Front and Jackson streets, up stairs, San Francisco, State of California. au4

Santa Cruz Petroleum Oil Works Company.—
Location: Santa Cruz County, State of California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of July, 1866, the several amounts set opposite the names of the respective shareholders as follows:

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Framework; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes; and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been burished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

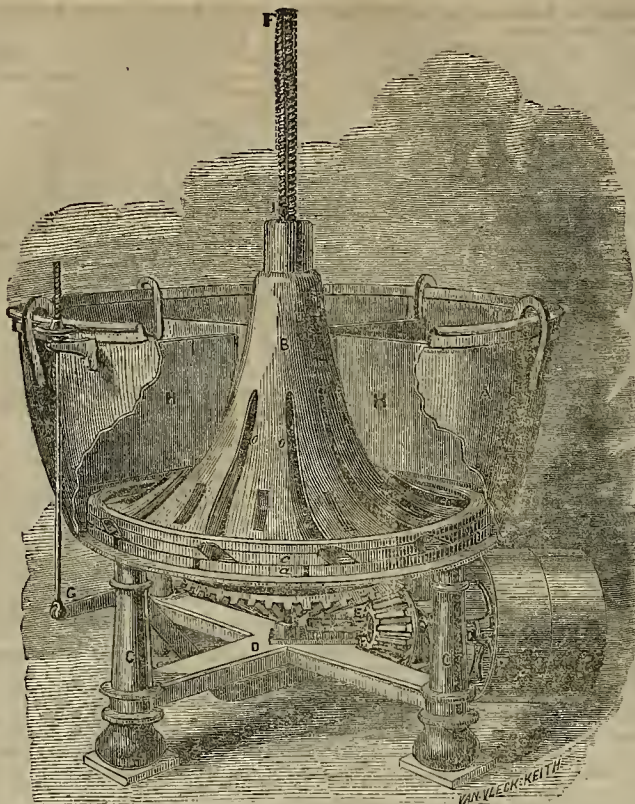
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merit.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

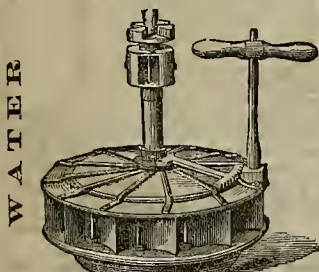
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with the quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
1st
San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in miller's inches or cubic feet per minute, what fall you require, and what power you require. Write or send for circular to KNAPP & GRANT, San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by
KNAPP & GRANT,
1212-3m
San Francisco.

The Hansbrow Pumps ARE WARRANTED THE BEST.

FIFTEEN KINDS AND SIZES; Adapted for FARM,

Mill and Mining Purposes.

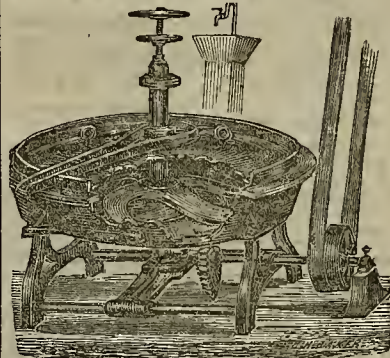
Fitted for HAND, WIND, HORSE, WATER AND STEAM POWER For sale in every city and town on the Pacific Coast.

LOCKE & MONTAGUE, Agents,

112 and 114 Battery Street, San Francisco.

Send for Illustrated Catalogue. 1212-2m

BAUX & GUIOD'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1884, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary crushing apparatus in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIOD'S Pan, are the following: The tripling cost for attendance; Its small cost; Its portability. The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping, as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the tripling power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jefferson Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Crall's Gravel Cement Works, Nevada county; Waltham's Chlorination Works, Nevada, Cal.; Gold Hill Quartz Mill, Washoe.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hough & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address
J. B. BAUX,
Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 418-6d

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE

ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent,

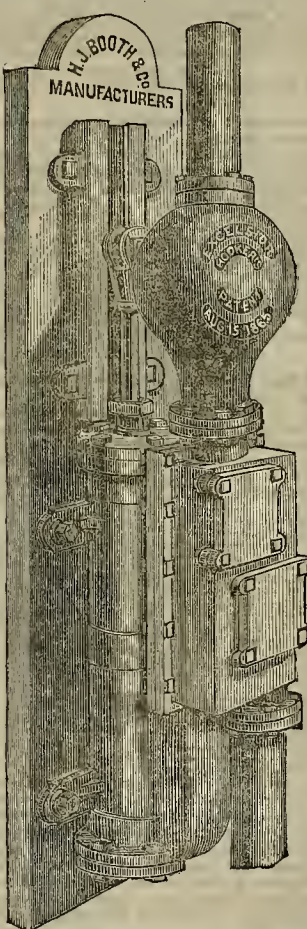
At Job M. SEAMAN & Co's, 631 WASHINGTON STREET, San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, school, or in fact any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the MINING AND SCIENTIFIC PRESS. 21316d

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Alameda City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 1912

EXCELSIOR PUMP!



HOOKE'S PATENT!

CHALLENGES COMPETITION!

THIS DOUBLE-ACTING SUCTION AND FORCE PUMP challenges competition, for simplicity, durability and power, and will work at any depth. The pistons for mining pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufacturers, farmers or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITTON & CO.,

General Agents, 120 Front street, San Francisco. 212-3m

Send for Price List.

STODDARD'S CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER, OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by

S. B. STODDARD, Corner of Battery and Pacific streets, 2112-3m June 23, 1885.

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention. 1512-3m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada. Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

1912 416 Market street, San Francisco.

Kerosene and Gas Stoves.

TEA AND COFFEE BOILERS, GLUE POTS, OIL CANS, etc., etc.

All the Cooking for a family may be done with Kerosene Oil or Gas, with less trouble, and at less expense, than by any other fuel.

Each Article manufactured by this Company is guaranteed to perform all that is claimed for it. Send for Circular. LIBERAL DISCOUNT TO THE TRADE.

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Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by THOMAS H. SELBY & CO., 212-3m Nos. 116 and 118 California street

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THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. One to three-ply hose made. All orders punctually attended to.

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Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

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Corner First and Mission streets, or Box 2,077 3v13f SAN FRANCISCO.

V. CUSHING, Agent

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Purchase & Shipping of Machinery

OF ALL KINDS.

Especially attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. F. Low, Coffey & Risdon, San Francisco; C. T. Meader, Stockton; Geo. K. Guyas, Chief Engineer of Cal. S. Nav. Co., San Francisco; J. W. Stowe, Russell & Erwin Manufacturing Company, San Francisco.

Office, No. 120 Front street, San Francisco. 4v12

Economy in Advertising.—THE MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than one-half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

THE BELL BIRD.

One of the most singular of the feathered inhabitants of tropical forests is what is known as the "bell bird." Of all the babel sounds which reach the ear from the gorgeous growth of trees and shrubbery, of climbing vines and brilliant flowers—the curious cries, the jubilant songs, the angry chatterings, the growls, snarls, croaks and hisses from bird, beast, insect and reptile, nothing produces such a peculiar feeling upon the traveler from Christian lands, as the croakings from the burning heat beneath the shade of the gorgeous tangle of tropical vegetation, as the sudden sound which emanates at intervals from this singular bird, which a writer describes as follows:

"As the scorching heat of the midday sun approaches, and by one the busy sounds of insect and animal life die away, the flowers close their petals, the leaves droop languidly from every branch and spray, not a breath of air stirs even the delicate tree ferns; the stillness is that of death, as if the world of living things had ceased to be. Then as you crouch under the wide leaves of the plantain, seeking shelter from the burning heat, suddenly a loud sound is heard, like a deep, full-toned bell; a short time elapses, and again it sounds, and so on at intervals of three or four minutes; often other singers, of the same class, join in the peal, and then the "forest chimers" toll their mournful music from far and near. You cautiously creep out, and peer curiously in the direction of the noise, to discover what living creature could produce a sound so exactly like a bell. At last you spy him out, and catch him in the very act, seated on the top of a dead palm—his belly. By travellers he has been aptly named the "bell bird."

On the top of the head there is something like the horn of the fabled unicorn. This tube of flesh is hollow, and communicates with the palate. When the "bell bird" is silent, this strange spire-like affair hangs down over the beak, just as the red fleshy wattle dangles on the front of a turkey-cock's head; but, when sounding his bell-like voice, it is filled tightly with air, and stands erect and stiff as a horn. A late traveller says, "At a distance of three miles you may hear this snow-white bird, tolling every four or five minutes like a distant convent bell."

A Suspicious Snake Story.

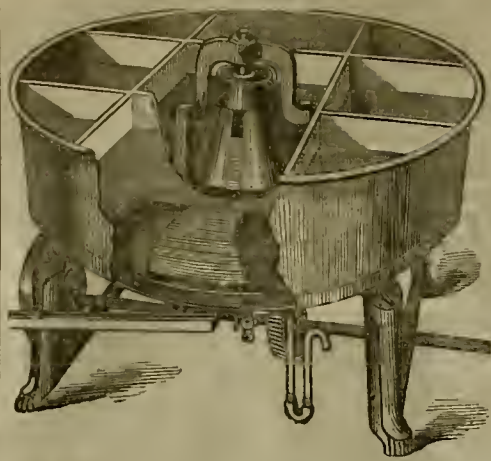
Every one has heard stories about snakes charming and fascinating birds. This mysterious power has been particularly attributed to the rattlesnake, though the common black snake is also said to exercise it. In the case of the rattlesnake there are also stories of this power having been exercised over human beings, though we have never seen any well-authenticated instance of it, unless we credit the following rather incredible story about two boys in New Jersey:

The narrative states that the boys were in the woods looking for the cows, when they encountered a large black snake. One of them, described as an "inquisitive imp," resolved to ascertain by experiment whether there was any truth in the stories about snake charming. So he gave his companion a stick, and told him to keep his eye on the snake while he made the trial of its powers. He then advanced close to the snake and began looking steadily at him.

When the snake observed him in that situation he raised his head with a quick motion, and the lad said at that instant there appeared something to flash in his eyes, which he could compare to nothing more similar than the rays of light thrown from a glass or mirror, when turned in the sunshine. He said it dazzled his eyes; and at the same time the colors appeared very beautiful, and were in large rings, circles, or rolls, and it seemed to be dark to him everywhere else, and his head began to be dizzy, much like being over swift-running water. He then says he thought he would go from the snake, and as it was dark everywhere but in the circles, he was fearful of treading anywhere else; and as they still grew less in circumference, he could not see where to step; but as the dizziness in his head still increased, he tried to call his comrade for help, but could not speak; it then appeared to him as though he was in a vortex or whirlpool, and that every turn brought him nearer the centre.

The boy with the stick now began to think it time to interfere, and accordingly attacked the reptile and killed it. His comrade, however, was terribly affected, and remained for several days in a "melancholy and stupid situation."

We may very naturally consider this a "rather incredible story." Perhaps the most incredible feature about it is the boy's very remarkable description of the process of charming. The boy who could describe his sensations in the language which we have quoted, must have been a little philosopher.

Knox's Improved Patent Amalgamator and Separator,
With Palmer's Patent Steam Chamber or Die.

For further particulars, inquire of

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At the Golden State Iron Works, No. 19 First Street, San Francisco.

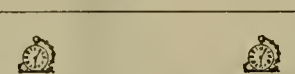
ISRAEL W. KNOX, or
W. A. PALMER, inventors,

Eyes! Eyes!! Eyes!!!

DR. HENLY, Oculist and Aurist, has received from Scotland one of the most miraculous remedies for the benefit of the human eye ever before discovered. It is unparalleled in its effects upon the diseases incident to this organ. It gives wonderful power to the optic nerve, and removes all the granulations from the lids, and all mucus film from the sclerotic coat without the use of instruments. In fact, it works like a charm on the eye, without giving any pain. You feel the effect of the medicine in different parts of the head. It drives the disease back into the system, which is better able to stand it than this tender organ.

Why will you suffer when you can be cured in a few days. persons who have been blind for ten years have been restored to their sight in a short time by the use of this medicine. I will treat any person's eyes in the State, and I do not give them relief in a short time, I will not charge them anything. Office, No. 751 CLAY STREET, opposite the Plaza, San Francisco. 22-112

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C. E. COLLINS,
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EXCLUSIVE AGENT

AMERICAN
WATCH FACTORY.

A large assortment of these
Superior Watches,
In Gold and Silver Cases,
Constantly on hand, and sold at Factory
prices. Also,

ENGLISH AND SWISS WATCHES,
Imported directly from the Manufacturers.

The American Company are now making
VERY FINE WATCHES FOR LADIES.
A large assortment of Gold Chains
and Jewellery. 2516-6m

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THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for washing in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1 lb each, and in wooden boxes of 10 lbs bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 1513m

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BOTH OF MATERIAL AND FINISH.

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AT EXTREMELY LOW PRICES.

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200 BARRELS COPPERAS-SULPHATE OF IRON.

For sale, in lots to suit, by
BENJAMIN BRADY,
103 California street,
Southwest corner of Davis, up stairs.

ANNUAL REPORT
—OF THE—
Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 22, 1880, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD. \$750,000
II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND EIGHTY DOLLARS AND THIRTY-SEVEN CENTS. \$1,051,426.37
III.—The Company has NO DEBTS.
IV.—The amount of insurance effected during the year, and which remained in force December 31, 1880:
Fire.....\$12,973,949
Marine.....481,408
This Company commenced underwriting Marine Risks, August 1, 1880.

V.—This Company insures against the following risks, viz.: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, SHIPS, CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE. Also, on CARGOES, TREASURES, COMMISSIONS, PROFITS, and WARE HOUSES, and on ALL MARINE AND LAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$5,000 the limit fixed by law, and on large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.
J. HUNT, President.
A. J. RALSTON, Secretary.

San Francisco, January 19, 1881.
Louis McLane, Edward Martin, A. Hayward,
W. C. Ralston, Chas. Mayne, T. L. Barker,
A. L. Tubbs, Josias Ellis, Alex. Wallis,
William Alvord, E. L. Goldstein, C. Meyer,
Frederick Billings, Wm. T. Coleman, J. D. Fry,
Jonathan Hunt, John O. Earl, M. Rosenbaum,
A. B. Forbes, Lloyd Tewks, H. H. Stewart,
Anson G. Sides, Geo. W. Beaver, T. Lemmen Meyer,
Abm. Sellman, Adam Grant, Sacramento,
L. B. Benchley, Alphons Bull, Edgar Mills,
Wm. Sherman, S. W. Wilson, G. W. Mayne,
L. Sachs, C. T. Oliver, C. T. Wheeler,
Jas. De Fremery, William Scholle, Marysville,
John G. Bray, Morton Chessman, J. H. Jewett,
John B. Newton, H. Hanson, Portland, Oregon,
David Stern, D. W. C. Rice, T. R. Anthony,
O. O. Mills, Oliver Eldridge, Portland, Oregon,
J. G. Kellogg, E. W. Leonard, W. L. Leonard,
G. H. Howard, S. Steinhard, Jacob Kaum,
Moses Heller, P. L. Weaver, Virginia, Nevada,
H. M. Newhall, Wm. Hooper, Wm. Sharon,
G. T. Lawton, Alfred Gorel,

State of California, City and County of San Francisco, ss. On this nineteenth day of January, A. D. one thousand eight hundred and eighty-one, personally appeared before me, H. S. HOMANS, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. Ralston, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.
Sworn and subscribed to before me, this 19th day of January, A. D. 1881.
H. S. HOMANS, Notary Public.
5v13-11

WM. H. KEITH & CO.,
Chemists and Apothecaries,
PROPRIETORS AND MANUFACTURERS OF

WM. H. KEITH & CO'S WINE OF PEPSE, OR RENNET Wine, a new and efficacious remedy for Dyspepsia, Gastritis, etc. WM. H. KEITH & CO'S GLEICOLIN, a new and valuable compound of Cod Liver Oil, put up in glass jars. WM. H. KEITH & CO'S LEMON APERIENT, or Purgative Lemonade, an agreeable, cooling and active purgative, or mild laxative, as required. WM. H. KEITH & CO'S SAPONACEOUS TOOTH POWDER. DEVINE'S PITCH LOZENGES, for the cure of coughs and colds. Wm. H. Keith & Co's Florentine Tooth Wash. Wm. H. Keith & Co's Gumbo. Effervescent Citric of Magnesia. Wm. H. Keith & Co's Rosemary and Castor Oil Hair Invigorator.

WM. H. Keith & Co, being in frequent communication with Eastern and European markets, are continuously renewing their stock of Pure Drugs, Rare Chemicals, Fancy Goods, and Toilet Articles, Pure Oils, etc. They also give special attention to replenishing ship medicine chests. Also, just received, a large and well-selected invoice of HERNSTEIN'S CELEBRATED INSTRUMENTS, consisting in part of Amputating and Obstetric sets, Pocket Cases, etc. Physicians and others at a distance ordering orders from us, can depend upon having their orders filled with the same regard to quality and price, as though obtained in person, and we give particular attention to packing and forwarding the same.

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A GOOD TYPICAL COLLECTION OF
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Silver, Lead, Copper, Iron, Salt, Sulphur, etc.—about nine hundred specimens—carefully labeled, with Catalogue.
For terms, apply to this office, or to S. H. R., Virginia, Nevada. 6v13-1m

SUBSCRIBE FOR IT.—The large, illustrated sixty-four column weekly newspaper—the San Francisco Mining and Scientific Press—should be taken by every miner, prospector, and intelligent citizen throughout Colorado, as it gives a mint of most useful information to be gained no other way, on mining matters generally.—[Rocky Mountain News.

Portable Steam Engines!

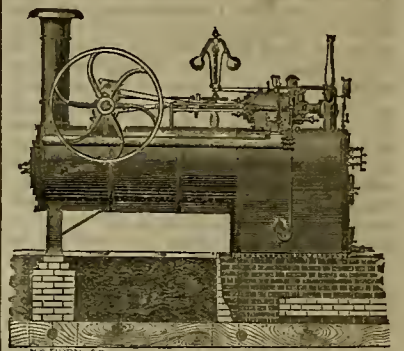
"Hoadley's" and "Hittinger's" Make,



HOADLEY'S.

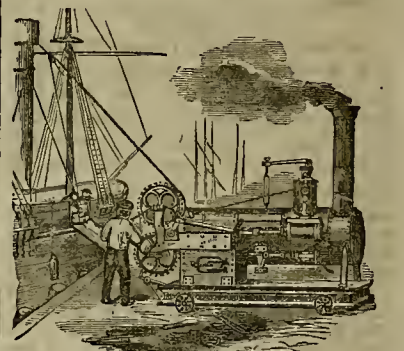
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

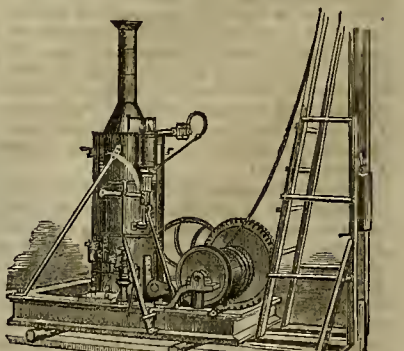
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power!



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price.

These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes. Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises.) In fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.

All sizes on hand from 3 to 30 horse power, with and without carriages.
Also, Portable Saw and Grist Mills.
For sale by
TREADWELL & CO.,
15v12 Corner of Front Market and streets.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

PROCESS FOR REFINING OIL.—E. G. Sotherland, of San Francisco, claims, substantially, the following process for extracting and refining oil from whales and other marine animals and fishes: The hlobber is taken from the fish or animal and placed in a steam-tight tank, having a grating near its bottom, and into which steam is admitted from a steam boiler, and by which the oil is more rapidly and more completely extracted than by the ordinary process of "trying out" by the direct action of fire. The pressure of the steam, at the same time, forces the oil and all other fluid matter from the tank, as above described, through a tube placed near its lower extremity, into another tank conveniently placed at a lower level. This latter tank is partially filled with cold water. The effect of this last process is, that while the oil remains floating on the top of the water, the blood and other foreign matter goes to the bottom or mingles with the water, after which the oil may be drawn off by a stop-cock at leisure into another tank or beater, having a false bottom, with a steam or fire chamber, by means of which any water remaining in the oil may be removed by means of evaporation. Another receptacle or tank of iron or other material is placed near the tank or heater last described, in which is placed a coil of pipe or worm. Water is introduced into this tank for the purpose of keeping the worm cool, which can be removed as fast as it becomes heated. The oil is now drawn off from the "heater" to this coil, and conveyed to casks or pipes.

It is evident that by this process the oil is obtained much purer, of a better color, and entirely free from all danger of being "burned," and also that a large increased percentage of oil can be obtained from the same amount of blubber.

NEW INVENTIONS.

AN IMPROVED COFFEE POT AND TEA POT.—E. D. McCarthy, of this city, who recently obtained, through the MINING AND SCIENTIFIC PRESS AGENCY, a patent for a "Noiseless India Rubber Tappet," for quartz mills, has recently perfected another invention, for which he will apply for a patent. His second invention consists of a very neat and convenient arrangement which may be used for either a coffee or teapot. The peculiarity of its construction is that in the centre of the vessel is a cylinder made of tin, perforated like card-board for embroidery, and fastened to the bottom so as to be stationary. This cylinder reaches nearly to the top of the teapot, and is open at the upper end. A second cylinder, made in the same manner, but detached, is made to shut up with a lid, like a candy jar, and slip neatly inside the fixed one. Into this second cylinder the coffee or tea is placed dry, and the cylinder is then slipped into the larger one and the water poured in. The coffee or tea of course pours off clear at once, and as the water entirely surrounds the inner cylinder, none of the aroma is lost. To clean it the cook has merely to take the inner cylinder out, take off the lid, shake it bottom upwards, and the work is done. Application for a patent for this invention has been made through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

PATENT RAILROAD BUILDER.—William D. Robertson, of Humboldt, has invented a machine for expediting and cheapening the construction of railroads, which consists of a platform car, fifty or sixty feet long, to be propelled by animal power or a donkey engine, which is supplied with machinery to perform the following work; level the grade for the ties, drop the ties in their proper places, bed the ties by means of stamps, smooth the top of the ties by means of a revolving cutter, lay the rails from iron chairs as soon as the ties are ready, drop the spikes through grooves to their proper places, and drive the spikes by hammers regulated with a cam. It is intended to lay about five miles of track in six hours, with the labor of twelve men. Mr. Moore, of the Vulcan Iron Works in San Francisco, and several others of our best mechanics, are engaged in giving a thorough, critical examination to the plan. If found practicable, it must prove of great utility in economizing time, labor and expense.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In one-half the time it takes to operate through Eastern Agents, and from our familiarity with the subject of most California inventions, and the prompt and careful explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant Agents. DEWEY & CO., Patent Agents, 505 Clay street, San Francisco.



Boiler Makers and Sheet Iron Workers.

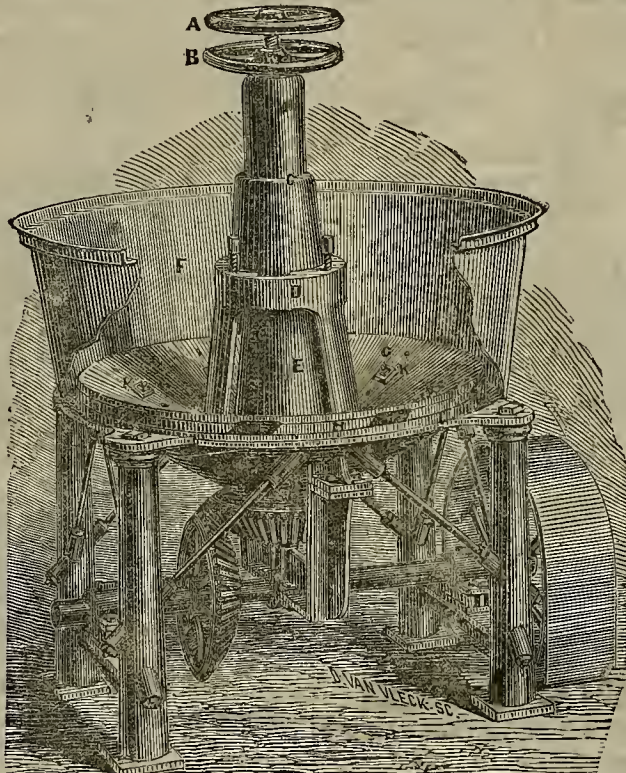
Mission Street, between Beale and Fremont, San Francisco.

N. B.—All kinds of Boiler and Sheet Iron Work executed at the shortest notice, and on the most reasonable terms. 17v12soptf

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We invite the Mining Public to examine the record of our Machines before adopting any other for producing similar results. They have been in general use for the past three years, during which time they have been repeatedly tried in comparison with every other machine of note, and of a similar nature, and have invariably been adopted in preference; which facts we offer as the most suitable recommendation, and which is attested by the following list of

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OPHIR.	Washoe City, "	HUOGIN & FOREMAN.	Silver City, "
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PHENIX.	Silver City, "	EAGLE.	Amador Co., "
CHAS S COOVER.	Silver City, "	IDA MILL.	Owens River, "
PIONEER.	Silver City, "	ALACRAN.	Sonora, Mexico.
L. A. BOOTH & CO.	Virginia City, "	SANTA CLARA.	Sonora, "
A. DELANO.	Washoe, "	ROSARIO & CARMAN.	Sonora, "
SUBBIR MILL & MINING CO.	Gold Hill, "	LIBERTAD.	Sonora, "
RODGERS & GRISMAN.	Silver City, "	DON JUAN ROBINSON.	Sonora, "
ANDERSON & SEAL.	Washoe, "		

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PAGE'S PATENT FOR RAISING SUNKEN VESSELS!

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AUSTIN Z. PAGE, Patentee.

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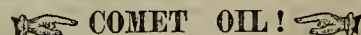
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SAN FRANCISCO, SATURDAY, SEPTEMBER 1, 1866.

VOLUME XIII.
Number 9.

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BURNETT'S STEAM CRANE.

The accompanying engraving represents a very convenient and useful "portable crane," designed for light work. It may be mounted on a railroad or other car for transport from place to place, or for following up its work when necessary. It is made of various sizes, calculated to lift from five to twenty tons. It may be worked by horse power, if desired, although steam is much more convenient. This crane was patented by B. J. Burnett, of Mount

receive the lateral pressure caused by the load, is concealed by the base on which the machinery stands; it consists of a circular way around the column, around which there are friction rollers arranged in a frame, which travels around the column half as fast as the revolving base of the jib, D, travels around it. Outside the rollers is a strong ring, bolted to the base of the frame, A, on which the working machinery and boiler are fixed. The anti-friction balls at the top and the anti-friction rollers around the column near the bottom,

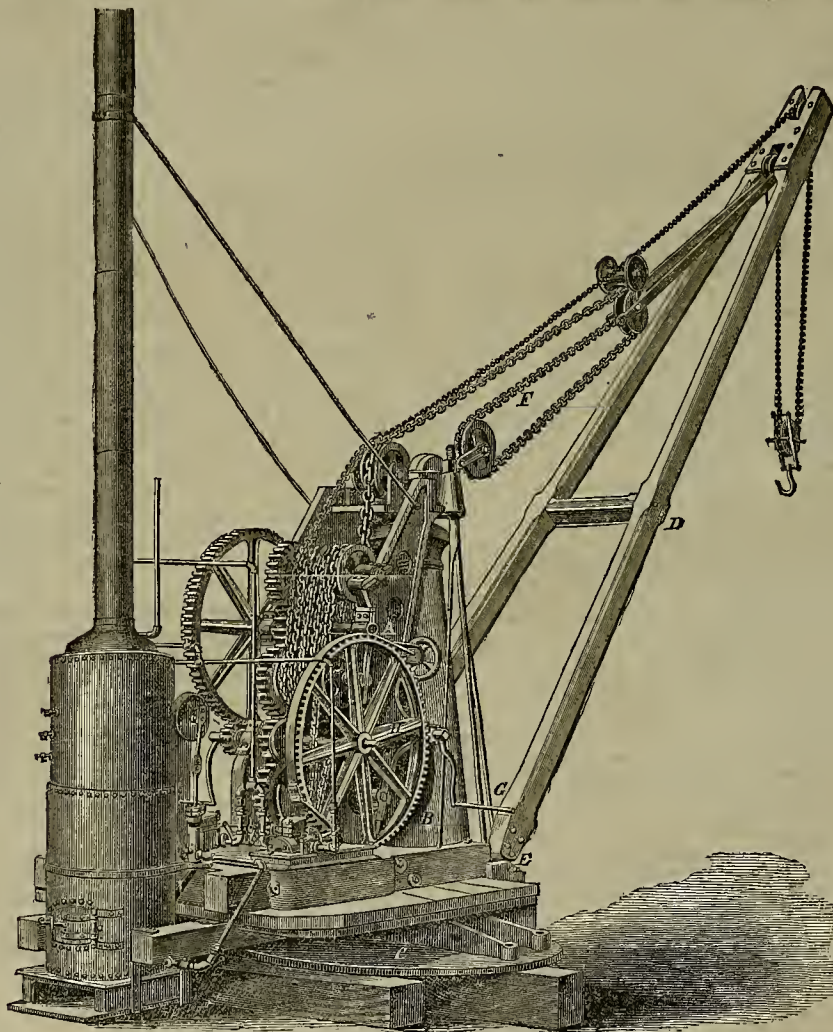
MARIPOSA COUNTY.—The Mariposa Free Press of August 18th has an interesting editorial in regard to the mines in Mariposa county, "outside the Grant." It says that of the 170 stamps on the Grant, only eighty-eight are now running; while outside there are not less than 250 now in operation. The list of mills, with the names of owners and number of stamps to each, is too long for our space. The "Great Main Quartz Vein" runs through this county, cropping out also in Tuolumne and Calaveras. The celebrated Pine Tree

A VERY PROPER SUGGESTION.—Dr. D. G. Macgowan, who is now traveling over the State with the view of more thoroughly acquainting himself with its resources, while recently viewing the Alpine grandeur of the Sierra Nevada, from a prominent point on the route of the Pacific Railroad, was terribly shocked to learn that a noted "pass" in the mountain, near by, was designated "Jehovah Gap." It appears that the place was originally called "Devil's Gap;" but the railroad company thinking to improve the nomenclature, had changed it to "Jehovah Gap." The Doctor earnestly remonstrated with his friend against such a palpable violence to good taste, and the religious sentiment of the community, as to make such an unwarrantable use of the ineffable name. It is conceded by the public that the officers of the Central Pacific Railroad are fully entitled to give names to all prominent places along the line of the road; but we join with the Doctor in the earnest entreaty, that so respectable a body as the officers of that road—a body which partakes of a national official character—will not vie with the least reflective of our population in a fault which has justly brought upon us, as a people, most severe animadversions from strangers and foreign tourists.

WHAT IS IT?—Some two weeks since, says the Santa Cruz Sentinel, Mr. W. T. Hunter had a well dug on his premises, near Portrero street, where the cemetery gate is located. The workmen, when down some fifteen feet, discovered a strata of sand-clay, containing a substance very similar to indigo. The substance is in blue balls, about the size of indigo balls, and quite light for a mineral substance. The color is a deep, ultra-marine blue, of pure body and tint, without any foreign substance, such as sand or clay. In some instances the balls had been broken, and the coloring was thoroughly permeated in the earth. As the indigo strata is lateral, the mineral was probably removed from the main ledge, in the adjoining bill, by a land-slide, earthquake or other disturbance. It is thought a little prospecting would discover the ledge. If some one will send us a sample, free of cost, we will furnish him with the name and general characteristic of the mineral.

GEORGE T. PRACY, at his new machine works on Mission street, between Maia and Spear, is better prepared than ever before to accommodate his patrons with good work.

FOR OUR CABINET.—A fine lot of specimens for our cabinet have been received from Nye county, Nevada, which will be more fully noticed next week.



BURNETT'S PATENT STEAM CRANE.

Vernon, N. Y. The American Artisan furnishes us the following careful description of the machine and its operations:

"The foundation plate and supporting column of this crane are marked C and B in the engraving. The circular plate, C, is to give a wide base. The conical column, B, is bolted down upon it; and the whole is stiffened by vertical webs. The weight of the movable part of the crane, with its load, is borne on the top of the column, inside of which is a circular groove containing twelve 3-inch balls to lessen the friction. A pivot gudgeon, forged upon the top of the frame, A, projects downward into a step, to bear the lateral pressure caused by the load. The bottom bearing, to

make it easy to swing the crane with its load. The steam cylinder, and the train of gear wheels, and the lifting chains, are shown in the engravings, and need no description. The base-plate, A, is for light work when there is no steam in the boiler; and this crank may be shifted to the wheel, H, when quick motion is required. Around the wheel, K, is a brake, consisting of an iron strap, which is tightened by a hand-wheel. The boiler helps to balance the load suspended under the jib, and swings around when the load swings.

PATENT REPORTS.—We are indebted to Hon. Wm. M. Stewart for volumes one and two of the Patent Office reports for 1863.

and Josephine mines are upon it; so, also, the Crown Lead. The district is about fifty miles in length and ten in breadth. The portion near Coulterville is of late attracting the attention of capitalists. We give a few items from the article above referred to: Doaglaes & Co., at Horse Shoe Bend, have been taking out \$20,000 a year with a band-mortar. Hughes & Williams, at Flyaway, are working a clay vein, and making from sixty to eighty dollars per week. Two five-stamp mills belonging to H. G. Cowan have been yielding immensely for the last two or three years. One of these is at Gentry's, and the other at the North Fork. Several gold-bearing veins at Hunter's Valley are now being profitably worked. In the neighborhood of Quartzburg and Hornitos there is a perfect network of quartz veins—most of them pocket veins, some of them decomposed. Miners are constantly at work with picks and hand-mortars, and the finding of "chispas" of several ounces weight is no extraordinary occurrence.

CHEMICALS.—It is said that the stock of chemicals and acids in this city is unusually large at the present time. This is due to a variety of causes. The sales of the last year have largely fallen off from that of several years previous, by reason of the decreased demand therefor by the mills of the interior. The cause of the decreased demand for chemicals and acids is attributed to the changes that have recently been made in the processes of separation and amalgamation of the precious metals. For sal ammoniac, the Washoe mills are now using common salt, obtained in that State. The use of sulphate of iron, copper, etc., is being gradually discarded for more economical substitutes. The stock on hand is being largely increased by frequent arrivals from the East, and a great number of shipments are still on the way. Quite a large amount of chemicals, also, is now being manufactured both in this State and Nevada.

THE OLDEST LAND.—Professor Agassiz says that the strip of highlands which divides the waters flowing into the St. Lawrence from those flowing into the Atlantic, is probably the oldest land in the world. If so, it was once a lonely sea beach, washed by a universal ocean.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Notes on the Chief Gold Districts Throughout the World.

BY PROFESSOR ROWLANDSON, F. O. S. L.

[Continued on Page 93.]

ASIA.

Allusioo has already been made to the auriferous district of the Ural mountains, which forms the dividing ridge between Europe and Asia. The gold region, however, is almost if not entirely confined to the Asiatic side. At the same time a brief notice was made of the Altaic mountains, based on some remarks made by Sir Roderick Murchison, in reference to a posthumous work of the late Mr. Atkinson. The remarks then made need not be repeated, especially as they will most probably again have to be referred to in drawing up a brief summary.

The great central plateau of Asia is still almost a geographical *terra incognita*, whilst of its geology we absolutely know nothing, from the northern water-sheet of the Himalahs to the Altai and Ural mountains, and from the Pacific border of China to the Kergis Steppes. If, however, we admit what is in the highest degree probable, that oceanic waters extended continuously, within a comparatively recent period, from the Atlantic to what is now called the Sea of Aral, in Central Asia, from which seabed has been deposited rocks resembling those found surrounding the Caspian, there can scarcely exist a doubt that the metalliferous rocks, containing gold, silver, copper, or any other metal, must be of very recent age. A wild, rocky, and mountainous country exists on the eastern and northern border of China, separating the lower flat and sea-board portions of that Empire from the Tartary and Central Steppes and deserts of this continent, the age of which has been undetermined, and in which minerals, auriferous and argentiferous, are said to be not unfrequently found. At the early period of studying this subject, or more than twenty years ago, I was led from the fact that silver, the product of the region under notice, owing to the amount of gold present, was worth two dollars per ounce; that the ore must have been obtained from rocks of the paleozoic age; for up to that period, and for a long time afterwards, I had tangible evidence that gold had been discovered in rocks of a more recent date than those associated with the primary sedimentary series; although I soon afterwards had strong reason to suspect, from the examination of ores obtained from South and Central America, Mexico, etc., and comparing the accounts which accompanied them of the rocks from which the specimens had been derived, that when a more accurate examination of the geology of the countries named had been made, it would be found that these celebrated districts for the production of the precious metals consisted not only of the older, but also of the secondary and probably still more recent rocks.

The observations made and reported by Mr. R. Pumpelly, on the geology of the interior of China, tend to show that the more recent rocks predominate in geographical area, compared with those of paleozoic time. It is to be regretted that Mr. Pumpelly has not given us even a brief account of the geology of the Japanese group, or, at all events, such portions thereof as fell under his immediate observation, as gold has undoubtedly been found of very fine quality and in pieces of considerable size in Japan; though probably its chief auriferous produce is possibly considerably alloyed with silver, usually in proportion not greatly varying from that of "electrum."

The specimens of coal and lignites hitherto derived from Japan tend to the inference that they are referable to cretaceous and tertiary ages, whilst its active volcanic system, both in form and general characteristics, bear a strong resemblance to that found in the South American Cordilleras.

INDIA, MALACCA, ETC.

Notwithstanding the long established popular impression of the immense metallic and jeweled wealth of the Orient India, Hindostan proper is but very sparsely furnished with mines capable of yielding the precious metals in paying quantities, even though worked by means of the cheap labor of its redundant population. The Burdwan coal-field has generally been considered as belonging to secondary rocks, and has usually been compared with the carboniferous beds of Australia, which have also generally been assigned to the secondary system. On this point, however, as regards both countries, the evidences in support of the view just set forth have rather been considered as strongly conducing thereto rather than being conclusive. Seeing that gold has been found in Nepal, high up in the Himalahs, and that a large part of the mountain is composed of and generally capped by rocks of tertiary age, as well as that the matrix of the celebrated diamond mines of Golconda is formed of rocks more modern than the paleozoic era, in the absence of proof to the contrary, it is not an unfair inference that when worked out, the gold-producing rocks of India will be found, as in California, and probably in many other parts of the world, to consist of secondary or even more recently formed strata.

The peninsula of Malacca probably affords more marked evidences of the geologically modern era of gold-producing rocks, than India proper; a like remark applies also to the neighboring extensive islands of Ceylon, Sumatra, Java, Borneo, the Manilas, etc., etc., some of which, from existing plutonic action, bear a strong resemblance to what is simultaneously occurring on Central and the Western coast of South America.

AFRICA.

So very little is correctly known of the geology of this continent that a brief space only will be required to describe its features as regards gold-bearing rocks. All accounts concur that the northern part of this division of the earth, commencing on the Atlantic with the kingdom of Morocco, and proceeding along the Atlantic and Mediterranean sea-board to the embouchure of the Nile, and thence southerly across Egypt and continuously by the western margin of the Red Sea and the coast of the Indian Ocean, until the equator is approached, consists chiefly of secondary and tertiary rocks, and at different points along this extended line gold has been found in various ages. The most celebrated amongst the ancient memorabilia connected with this subject, in the land of Ophir, which has recently been pretty well determined to be situated not far from the Straits of Bab-el-Mandeb. Respecting the western equatorial coast of this continent, commonly called the Gold Coast, the coinage of the gold from which has given the name of "guinea" to a British coin of \$5.25 value, I am not aware that any information exists respecting the geology of the country from which it is derived,—not even as respects the country bordering the Atlantic—the latter, even if known, would however go a very little way toward elucidating the subject, as I have been informed by a great number of African traders, of whom I have made personal inquiries, that the ivory and gold purchased on this coast is brought from the interior, in some instances from a considerable distance, and that of the character of the country from which the gold was procured originally, no information had ever been obtained, or, in fact, even sought.

Respecting South Africa, namely, the vicinity of the Cape of Good Hope, Natal, Namaqualand, etc., in each of which gold has been found, secondary rocks have so far been found to occupy by much the larger area of the lands hitherto noticed with geological objects in view. A large part of Natal and Namaqualand, as I have been informed from private sources, is composed of a metamorphosed rock not greatly dissimilar to what is found so extensively in Calaveras county, and extending into Amador and El Dorado counties on the one side, and Tuolumne and Mariposa on the other. The comparison holds good in another respect, namely, that in the African district, as in Tuolumne county, large "table mountains" exist, capped with beds of basaltic matter of immense thickness, which must at one time have extended continuously for upwards of one hundred miles, though now broken into segments by intervening valleys, formed by denuding forces.

These remarks are only made in order to draw attention to the general similarity of character, so far as yet known, between California and Southern Africa. As respects the probable future gold-producing capacity of the two districts, the comparison is immensely in favor of California, for, so far as information has been obtained up to the present period, the gold-bearing quartz rocks of Southern Africa are sparse and irregular, and in a general way somewhat unproductive. The indications for copper, especially along the Orange River, are, however, much more promising.

[To be Continued.]

[Written for the Mining and Scientific Press.]

The Patera Process in Lower California.

EDITORS. PRESS: Some months ago, there appeared in the columns of the PRESS, the statement that certain parties in Lower California had adopted the Patera process for beneficiating the silver ores of that country, and it called forth an article from the pen of G. Kastel, I think, in which that process was spoken rather favorably of. I know something of the history of that experiment, and, for the benefit of those who feel an interest in it, will state that the announcement of its success was premature. It was abandoned after a short trial.

A test, which succeeded perfectly, had been made upon about a ton of the concentrated heavy sulphurets from the Santa Cruz mine; but when it was attempted on a larger scale, and on unconcentrated ore from the same mine, it was found that, notwithstanding the leaching of the roasted ore with hot water, there remained a large quantity of matter, soluble in the cold solution of hyposulphite of soda, in consequence of which, the leaching with the latter required a very long time; the precipitation consumed an enormous quantity of solution of polysulphide of sodium, and finally the precipitate contained so much arsenic, lead and antimony, that the extraction of the silver from it was almost as costly and difficult as from the original ore; besides which, the residues, or tailings, retained a large proportion of the silver originally present.

I myself repeated the experiment more than once on a small scale, with the same and other ore, which I had roasted for amalgamation, with similar results. In fact the ores of Lower California, in general, are not fit for the process; they are of the class called "rebellious," in a high degree, and they almost invariably contain a great deal of arsenic and antimony, more or less zinc, and from one-half to twenty per cent. of lead. The gangue, in the district of San Antonio, is usually calcareous, with but little quartz. The gentleman who made the experiment, deserve great credit for their perseverance, as they did not give it up until a thorough trial, and the outlay of a large sum of money had convinced them that it would not answer. Neither of them was experienced in metallurgy, otherwise the attempt would probably not have been made on such ores. They fell into the too common error of basing calculations on the result of a test made under conditions which could not profitably be maintained on a large scale.

On replacing the amalgamating pans, warned by the past, they engaged an amalgamator, one of that class of "mushroom assayers," so designated by an indignant correspondent of the PRESS, some time since, to whose growth in large numbers the exigencies of the Pacific coast have given rise. A mushroom is better than a fungus, even though the former has sprung up in a single night, and the latter be the slow growth of years on some old log in the Fatherland, and our California and Washoean metallurgists have been more successful, at least in Mexico, than those imported from Europe. Accordingly the little four-stamp Picacho mill immediately began to pay a handsome dividend to the lessees, and continues doing so to this day, which is more than its big sister of the Triunfo has ever done yet.

I believe that a good mill, capable of working two tons daily, would pay well in Lower California. A significant fact is, that one Flores, a Mexican, who has for some years past been extracting ores exclusively for exportation, has grown rich thereby, though his mines are badly worked, and not richer than many others in the vicinity. DON CARLOS.

STRAID ON COMMON ROADS.—The employment of steam on common roads is fast becoming a success. A gigantic road locomotive, for carrying freight, has recently been put at work at the quarries at Newcastle, County Down, Ireland. The works of the machine are massive and elaborate, and it is calculated to carry eighty tons with ease.

Copper Ore Shipments and Sales.

The shipments of copper ore to Swansea from this city since January 1st, 1866, have been 3,240 tons. Another vessel is now loading for the same destination. This is a much larger amount than has ever before been shipped during a like period. These shipments, it will be observed, do not include that which has gone to Atlantic ports.

The price of copper ore has declined very materially during the period alluded to. For the purpose of showing the amount of this decline from November 10, 1865, to July 10, 1866, we append the following report of sales made upon the dates given:

	Nov. 10, 1865.	July 10, 1866.
10 per cent. ore.....	\$41.50	\$33.87
17½ per cent. ore.....	66.62	58.75
21 per cent. ore.....	91.62	67.62

The latest advices from Swansea report a sale of 2,703 tons of copper ore, sold in lots, assaying all the way from 3¼ to 69 per cent.—the former selling for \$7 or 1.86 cts. per cent.; the latter selling for \$27.87, or 3.30 cts. per cent. of copper.

Ores assaying 20 per cent. has been sold in this city within the past four days for \$52 per ton. The value per ton, in Swansea, July 10, 1866, for 20½ per cent. ore, was \$63.28, leaving a margin of only \$11.28 per ton over the price in this city, for freight, insurance, interest, commission and incidental expenses, including cost of sampling and assaying, both here and in Swansea. The California miner will see from this statement that there is a very small margin for a profit to the buyer here. If we estimate California interest, at two per cent. per month, for the ten months delay between the sale here and sale day in Swansea, the interest alone would more than absorb the entire difference, leaving nothing for freight, etc.

Sales of copper ore take place in Swansea every week. The ores are sampled one week before the sale, so that parties wishing to buy, may ascertain from their own assayers what per cent. of copper the several lots will yield. Sealed bids are then received for the several lots, and the party making the highest bid secures the ore. This system of sales will doubtless be inaugurated in this city, as soon as the receipts of ore here shall be regular and sufficient in amount. It would be much better, for all parties, than the present system of hawking samples about for purchasers. A large lot of California ores was offered for sale in Swansea, on the 17th ult., the results of which have not yet been received in this city, at least not by mail.

GREAT PRODUCTION OF PRECIOUS METALS. A London commercial journal gives the estimated value of the gold and silver production of the world in 1864 at £67,610,000, or about \$335,000,000, of which \$112,000,000 are set down to the United States, by far the heaviest producer of the precious metals in the world. The San Francisco Bulletin estimates that in the last sixteen years there has been produced in the world \$5,000,000,000 worth of bullion. The estimate is undoubtedly too large, but whatever it is, it has given a great impetus to trade, which will be still further accelerated by the floods of bullion that will be poured forth from the extended mineral region of the United States.

CHEAP ICE PITCHER.—The following simple mode of keeping ice-water cold for a long time in a common pitcher is worth knowing: Place between two sheets of paper (newspaper will answer, thick brown is better) a layer of cotton batting, about half an inch in thickness; fasten the opposite ends of paper and batting together, forming a hollow cylinder, then sew or paste a cover over one end, making a box the shape of a stovepipe hat, minus the rim. Place this over an ordinary pitcher filled with ice-water—making it deep enough to rest on the table so as to exclude the air—and the reader will be astonished at the length of time his ice will keep, and the water remain cold after the ice has melted.

Boston papers claim that the statuary of their town in a few years will be ahead of anything in America.

Mechanical.

A NEW ALLOY—IRON IN BRASS.

Dr. Grace Calvert, in a recent lecture, remarked that he as well as several other experimenters, had observed that the addition of a small quantity of iron to brass, which is ordinarily considered an impurity, completely modifies, and, for some purposes, greatly improves the properties of that alloy. A brass composed of 40 per cent. of zinc and 60 per cent. of copper, can be readily drawn or bent when cold, but cannot be forged or worked when heated; while if $1\frac{3}{4}$ to 2 per cent. of iron be substituted for a like per centage of the zinc, a character of brass is obtained which possesses the valuable property of being forged at a red heat, like iron; and its tenacity is at the same time increased in an enormous proportion, as compared with a brass destitute of iron in its composition. The Doctor says that each square inch of surface of this new alloy is capable of supporting a "breaking weight" of from 27 to 28 tons—a tenacity nearly equal to that of iron.

Messrs. Beyer & Peacock, of Manchester, who experimented with bolts made of this alloy, in the hope of substituting them for iron ones in the fire-boxes of locomotives, found that the bolts would support a strain equal to those of iron, and that the threads of the screw were not stripped with more facility than those of iron, when exposed to the same strain.

MIXED IRON FOR STEAM CYLINDERS, ETC. A mixture of hematite iron with Bessemer steel has been used in England, in the manufacture of steam cylinders for high-pressure engines, and has been found a great improvement over the iron ordinarily used. It adds greatly to the strength of the cylinder to the given weight of metal. Quite too little attention is given, by practical mechanics, to the employment of mixed iron for various purposes, where economy in cost, with lightness, compactness and strength is desirable. The wonderfully strengthening qualities of tungsten and titanium must eventually be brought into practical use for steam boilers, and for iron for steamboat shafts and steam chests, as well as its hardening qualities for various purposes where great friction and wear is encountered, as in quartz mill stamps, shoes and dies for amalgamating pans, for car wheels, railroad-car axles, etc.

IMPROVEMENTS IN FURNACES FOR CASTING IRON.—Some idea of the improvements which have been made in iron foundries within the past fifty years, may be inferred from the fact that Mr. Ireland, an iron founder of Manchester, England, was thought to have performed wonders in 1809 when he succeeded in melting a single ton of iron in *ten hours*. The same gentleman now melts *thirteen tons* per hour, with a single 4-foot cupola, and a portable one at that.

TO SOLDER STEEL UPON STEEL, the following ingredients, finely pulverized, have been recommended: Boracic acid, 41 pounds; dried sea-salt, 35 pounds; yellow prussiate of potassa, 15 parts; dried carbonate of soda, 8 parts. Or dissolve phosphorus in nitric acid; evaporate the solution to the consistency of thick sirup, and add one or two volumes of alcohol at 80 degrees; apply it to the steel with a brush, or dip the metal into it.

TO CUT IRON.—There are many circumstances under which the following method may be advantageously adopted for cutting iron: Heat your iron bar to whiteness, then with a common saw you can cut it as easily as a hot knife cuts butter. The edge of the saw will not be injured; and the ends of the bar, at the place of division, will be smooth—a result not attainable when the bar is cut with a chisel.

STEEL FROM IRON SCRAPS.—If iron scraps in small pieces are put into a crucible at the rate of forty pounds to eight ounces of charcoal and four ounces of black oxide of manganese, and exposed for an hour and a half to a high heat, and then run into molds, good steel may be made.

PORTABLE FOUNDRIES

Among the latest mechanical novelties attempted in England, is a "portable foundry;" not, as one would suppose, for doing light work, but for accomplishing the very heaviest class of work which such establishments are called upon to turn out. In fact, the great inconvenience, if not absolute impossibility, of transporting heavy castings, is the very consideration which has brought about this novelty in mechanical operations. Mr. Ireland, a distinguished iron-founder of Manchester, is the individual who has conceived the idea, and he intends to make it a specialty in his business. He has constructed a cupola, four feet in diameter within the lining, and twelve feet deep from the charging floor. His blast is introduced by means of a hollow iron belt or band two feet nine inches broad, which surrounds the cylinder, about seven feet from the ground. This belt contains two rows of tuyeres, one opening into the cupola from near the upper portion of the belt, the other from the lower portion. The upper row of tuyeres consists of sixteen orifices three inches in diameter; the lower one contains but four tuyeres, each eight inches in diameter, placed opposite each other. The blast is delivered into the lower portion of the belt, in range with the lower row of tuyeres, but at regular intervals between them. By this arrangement, it is said that the blast is very equally distributed throughout all the tuyeres. The upper row does most of its work around the edges of the mass—the blast not penetrating very far into the fuel; while the larger volume of the lower row forces the air quite into the center of the diameter of the cupola. The air is thus very equally diffused through the entire mass of fuel.

Mr. Ireland finds that with a blast pressure equal to sixteen inches of water on this cupola, he can run down thirteen tons of iron per hour. By the use of two such cupolas, he has recently cast an anvil block weighing 205 tons, running his iron at the rate of twenty-five tons per hour. He employs coke, and uses an amount but little in excess of one ton of fuel to a ton of iron.

When this cupola is to be moved, the lining is taken out for separate conveyance, when the shell of the cupola can be easily transported, set up and re-lined at a trifling cost, to what would be incurred for moving in one piece such huge castings as are now frequently called for. The furnace can be set up directly at the spot where the casting is wanted, and the power for the blast taken from any portable engine, or a stationary one if near by. A little reflection will at once convince any person of the feasibility and utility of the plan, and Mr. Ireland is deserving of much commendation for his happy idea. By the aid of the portable engine a cupola may be set to work anywhere at a few hours' notice, and its transport, and that of the pig iron and fuel, would usually come cheaper than that of a casting weighing very much less than a heavy anvil block.

"It is out of the question," says the *London Engineer*, in commenting upon the utility of the portable foundry, "to think of casting such masses [as heavy anvil blocks, etc.] at a distance, within the walls of an ordinary foundry, and then removing them to their permanent destination. The handling of such unwieldy blocks is an excessively expensive task, while their carriage over considerable distances is next to impossible. They cannot be conveyed by rail, and no vessels but those specially constructed for the purpose could take one as cargo. Some time since a casting, the basin for a large public fountain in one of the London markets, was made in one of our Midland towns. It weighed not much over, if so much, as the fifth part of Mr. Bessemer's anvil block. One of its first performances, nevertheless, was to break through a bridge spanning a narrow stream, while being conveyed by horses to a seaport town. Immense trouble and expense were incurred before it was rescued from this predicament. On its arrival in London it was found that, although required at the east end, no crane of sufficient power to land it existed down the river, and it was ultimately landed near the west end, and hauled by horses at dead of eight through the streets. A very little more weight would have effectually set all attempts at conveyance at defiance."

Scientific Miscellany.

MOVEMENT OF SOUND.—Under a calm condition of the atmosphere, sounds have been heard at great distances. Dr. F. C. Robinson asserts that the report of artillery at the battle of Gettysburg, Pa., was distinctly heard by himself and many other citizens at Greensburg, in the same State—a distance of 125 miles from the battle-field.

The velocity of sound in common river water, at a temperature of 15° centigrade, is 4,700 feet a second, while at a temperature of 30° centigrade it is 5,000 feet a second. In solids the velocity is much greater than in liquids. In fir-wood, for example, it is 15,000 feet a second; in iron, it is 17,000; in lead, however, it is only 4,000 feet a second.

When sixteen vibrations or sounds reach the ear in a second they produce the sensation of a musical note of the lowest pitch which the ear is capable of appreciating. When 32,000 reach the ear in a second, the note produced is the highest which the human ear is capable of appreciating. Any number of sounds or vibrations less than sixteen in a second, convey no idea of music to the brain.

CAUSE OF CEMENTS SETTING UNDER WATER. M. Fremy recently read a paper before the French Academy of Sciences, detailing some of his "Chemical Researches on Hydraulic Cements." The paper is of considerable industrial importance; but we will merely give at this time the author's conclusions as to the cause of the setting of the cements under water. This results, he says, from two different chemical actions. In this one the aluminate of lime becomes hydrated, and in the other hydrated lime combines with the silicates. The aluminates and the calcareous silicates, the author believes, play different parts in the setting; the former simply become hydrated, the latter combine with hydrate of lime. In a future number we may give an abstract of the experiments described by the author.

CHALK DEPOSITS.—A portion of the mud brought up from the bottom of the Atlantic in the attempt to grapple for the cable a year ago, has been analyzed. It presents such appearances as would lead to the inference that a bed of chalk is in process of formation under that part of the Atlantic ocean, and affords a practical illustration of the manner of the formation of the chalk beds of the earth.

TO DISSOLVE SILK.—It is said that silk can be dissolved in a neutral solution of chloride of zinc, concentrated to about 60° of the areometer. The process of solution is similar to that of dissolving guacotton in alcoholized ether. M. Persoz, the eminent French chemist, is the discoverer of this remarkable fact.

INFLUENCE OF THE LIGHTNING ROD.—A French electrician, M. Charles, says that a lightning-rod protects a circular space (around the rod), the radius of which is equal to twice the height of the rod above the roof of the building to which it is attached. According to this theory, if a rod extends ten feet above the top of a house, it protects a circular space of forty feet in diameter.

IMITATION VELLUM.—It is said that imitation vellum can be made by immersing white paper in strong sulphuric acid that has been diluted with half its bulk of water and allowed to cool. When washed freely—first in water and secondly in weak ammonia—the paper becomes so tough that a band of it, one inch in width, will support a weight of 125 pounds, while a similarly-shaped piece of the unprepared paper will break under a weight of eight pounds.

EFFECTS OF HEAT ON CRYSTALLIZATION.—M. Kuhlmann, in a communication to the French Academy of Sciences, about a year ago, on his "Researches on the Crystallogenic Force," states that crystals produced at a low temperature have forms different from those produced at the ordinary temperature, and are capable of holding much more water. This latter property is not confined to ordinary salts, but extends to sugar, oxalic acid, and other crystallizable organic matters.

WHY BOILING MILK FOAMS.—When milk is boiled its volume is very much enlarged, while water merely bubbles without any increase in bulk; why is it that the two liquids under the same circumstances behave so differently? When water is gradually heated to the boiling point the portion nearest the fire first reaches the temperature of 212°, and the first particle that is heated to this degree is immediately converted into steam. As in its new form its volume is about 1,700 fold greater than in the liquid state, while its weight remains the same, it floats upward through the water, being held in a nearly spherical shape by the nearly equal pressure of water against it upon all sides. When it reaches the surface it is lighter than air, and consequently floats away in the atmosphere, and being invisible it is lost to our sight. The rapid formation of these little globes of steam, and their rising produces that peculiar disturbance of the liquid which we call ebullition or boiling. When milk is boiled the same little globes of steam are formed, but their surfaces are coated with an exceedingly thin film of the case in which is one of the constituents of milk, and which has sufficient tenacity to prevent the bubbles from breaking when they reach the surface, or from being separated from the liquid. They consequently accumulate as they successively rise to the surface, forming the white foam which so frequently flows over the edge of the vessel into the fire.

SOME FACTS IN NATURAL SCIENCE.—According to the French chemist, Lavoisier, the human body exhales about three and one-half pounds of aqueous matter daily. A large cabbage has been forced to exhale twenty ounces of water from its surface.

If the surface of a frog be covered with oil it will speedily die, so important to its existence is the cutaneous respiration. The lungs of a frog can only be filled with air by an action resembling swallowing. Sea-weeds absorb their food by their whole surface, the so-called roots appearing only to serve the purpose of attachments.

The poison of the most venomous serpents may be taken into a healthy stomach without injury, but the smallest portion introduced into the circulating system may produce speedy death.

All food for plants must be so divided as to be able to pass through a cellular membrane. The roots of plants are never provided with open mouths. There is no plant that does not furnish support to some animal.

CHIMOGÈNE—A NEW ANESTHETIC.—Prof. Vanderweyde, in the *Dental Cosmos* says: "In experimenting with the highly volatile and gaseous products of distillation, I succeeded in producing a liquid boiling at any desired degree of temperature, say at 60°, 50°, 40°, or even at 30° Fah., causing, by its evaporation, the most intense cold. I propose therefore to call it *Chimogene* (cold generator)."

The desired degree of its boiling point depends on a slight modification in its preparation; in fact, it may be made so volatile that it requires very strong bottles and careful stoppering to hold it, as by lifting the stopper it foams like champagne, boiling at the common temperature; pouring it from the bottle in drops or in a small stream, it will be evaporated before reaching the floor.

Having just read, on page 601, of the last number of the *Dental Cosmos*, the remarks about the want of such a liquid for anesthetic purposes, it struck me that this was the very thing needed, and I hasten, therefore, to bring this discovery to the knowledge of the profession.

SINGULAR VEGETABLE ACTION.—Carefully conducted experiments, it is said, have shown that many vegetables are absolutely gainer by the more close connection with plants of another habit than their own; for instance, potatoes and cabbages, tobacco and turnips, onions and lettuce, cucumbers and radishes, peas and parsley, beets and bell-peppers, egg-plants and summer savory.

In the course of some studies on the formation of turf, M. Vohl sealed up a mass of moistened chestnut leaves in an earthen pot and left it to decompose. After nine years the author examined the earthy mass which resulted. It was first exhausted of water, and the residue was then treated with a mixture of alcohol and ether. The latter solution, on evaporation, left a residue of wax and chlorophyll, showing that nine years of putrefaction in the absence of light had not altered the coloring matter of the leaves.

OZONE.—The presence of ozone in the atmosphere is a subject of dispute, and a commission has been appointed by the French Academy of Sciences to investigate the question.

The diminution of the magnetic dip has been going on in London for the last half century, with great regularity, at the rate of about three minutes annually.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, August 25.

2 shs Chollar-Potosi at 118 per foot, s. 3.
 5 shs Chollar-Potosi at 118 per foot, s. 3.
 7 shs Chollar-Potosi at 177 per foot, s. 3.
 6 shs Chollar-Potosi at 182 pr ft, h. 30.
 7 shs Chollar-Potosi at 177 per foot, s. 3.
 25 shs Overman at 20 per share, s. 30.
 5 shs Overman at 21 per share, s. 5.
 55 shs Overman at 21 per share.
 10 shs Overman at 21 per share, s. 30.
 3 shs Overman at 21½ per share.
 5 shs Overman at 21½ per share, s. 3.
 30 shs Overman at 22 per share, h. 30.
 10 shs Overman at 20½ per share.
 20 shs Overman at 20½ per share.
 55 shs Overman at 21 per share, s. 75.
 15 shs Overman at 22 per share, h. 30.
 5 shs Overman at 21 per share, c.
 15 shs Overman at 21½ per share, h. 30.
 20 shs Overman at 21 per share, h. 10.
 5 shs Overman at 20½ per share, s. 3.
 10 shs Overman at 21½ per share, h. 30.
 5 shs Overman at 20½ per share, c.
 7 shs Crown Point at 950 per foot.
 1 shs Crown Point at 950 per foot, s. 3.
 3 shs Savage at 1160 per foot, s. 33.
 1 shs Savage at 1155 per foot.
 1 shs Savage at 1145 per foot, s. 30.
 2 shs Savage at 1145 per foot.
 2 shs Savage at 1145 per foot, s. 30.
 2 shs Ophir at 220 per foot, c.
 1 shs Ophir at 21 per foot, c.
 1 shs Ophir at 215 per foot, c.
 1 shs Alpha at 76 per foot.
 5 shs Bullion at 28 per share, h.
 1 shs Yellow Jacket at 730 per foot, s. 30.
 1 shs Yellow Jacket at 725 per foot, s. 30.
 2 shs Yellow Jacket at 717½ per foot, s. 30.
 2 shs Yellow Jacket at 730 per foot.
 1 shs Yellow Jacket at 712½ per foot, c.
 1 shs Yellow Jacket at 710 per foot, c.
 1 shs Yellow Jacket at 705 pr ft, s. 3.
 3 shs Empire M & M Co. at 110 per sh, c.
 1 shs Empire M & M Co. at 110 per share.
 6 shs Confidence at 48 per share.
 5 shs Cal Steam Nav Co at 78 per cent.
 \$3,000 Legal Tender Notes at 71c.
 Amount of sales \$ 42,214 00

Monday, August 27.

4 shs Gould & Curry at 720 per foot.
 1 shs Yellow Jacket at 710 per foot.
 1 shs Yellow Jacket at 712½ per foot, s. 3.
 2 shs Yellow Jacket at 712½ per foot, c.
 3 shs Yellow Jacket at 712½ per foot.
 1 shs Yellow Jacket at 715 per foot, s. 3.
 24 shs Ophir at 215 per foot.
 12 shs Ophir at 210 per foot, s. 30.
 12 shs Ophir at 210 per foot.
 12 shs Ophir at 212½ per foot.
 24 shs Ophir at 214 per foot.
 2 shs Chollar-Potosi at 175 per foot.
 2 shs Chollar-Potosi at 174 per foot, s. 3.
 1 shs Belcher at 155 per foot, s. 3.
 1 shs Belcher at 156 per foot, s. 3.
 2 shs Belcher at 162½ per foot, h. 30.
 1 shs Belcher at 16½ per foot, b. 20.
 1 shs Savage at 1140 per foot, s. 10.
 1 shs Savage at 1140 per foot.
 1 shs Savage at 1140 per foot, b. 5.
 1 shs Savage at 1132½ per foot.
 1 shs Savage at 1130 per foot, s. 30.
 1 shs Savage at 1130 per foot.
 1 shs Savage at 1125 per foot, c.
 1 shs Savage at 1140 per foot, b. 30.
 2 shs Savage at 1115/1105 per foot, s. 3.
 1 shs Savage at 1110 per foot, s. 3.
 2 shs Hale & Norcross at 1600 per foot, s. 30.
 1 shs Empire M & M Co. at 106 per sh.
 5 shs Overman at 20½ per share, s. 3.
 15 shs Overman at 21 per share, s. 3.
 10 shs Overman at 21½ per share.
 10 shs Overman at 20½ per share, s. 30.
 10 shs Overman at 21½ per share.
 10 shs Overman at 21½ per share, b. 30.
 10 shs Overman at 22 per share, s. 3.
 10 shs Overman at 22 per share, b. 30.
 10 shs Overman at 22 per share, s. 3.
 10 shs Overman at 23 per foot, h. 30.
 5 shs Overman at 22½ per share.
 5 shs Bullion at 23½ per share, b. 30.
 11 shs Imperial at 97 per share.
 \$15,000 Legal Tender Notes at 71½c.
 \$8,000 Legal Tender Notes at 71½c. s. 3.

AFTERNOON SESSION.

5 shs Chollar-Potosi at 173 per foot.
 5 shs Chollar-Potosi at 176 per foot, h. 30.
 10 shs Chollar-Potosi at 175 per foot, h. 30.
 5 shs Chollar-Potosi at 170 per foot, s. 10.
 5 shs Chollar-Potosi at 167½ per ft, s. 30.
 10 shs Chollar-Potosi at 170 per foot, h. 30.
 3 shs Yellow Jacket at 730 per foot, b. 30.
 2 shs Yellow Jacket at 715 per foot, s. 3.
 2 shs Savage at 1100 per foot, s. 3.
 7 shs Savage at 1095/1100 per foot.
 4 shs Belcher at 165 per foot, h. 30.
 8 shs Gould & Curry at 715 per foot, s. 30.
 16 shs Gould & Curry at 720 per foot, s. 30.
 22 shs Overman at 21 per share.
 10 shs Overman at 22 per share, s. 30.
 20 shs Overman at 22 per share, s. 30.
 10 shs Overman at 22½ per share.
 40 shs Overman at 22½ per share, s. 5.
 10 shs Overman at 22½ per share, s. 3.
 45 shs Overman at 23½ per share, h. 30.
 25 shs Overman at 23 per share, h. 10.
 16 shs Confidence at 44 per share.
 5 shs Confidence at 42½ per share, s. 30.
 Amount of sales \$ 79,809 00

Tuesday, August 28.

1 shs Chollar-Potosi at 166 per foot.
 10 shs Chollar-Potosi at 163 per foot, h. 30.
 7 shs Chollar-Potosi at 162 per foot, c.
 21 shs Ophir at 221 per foot, s. 30.
 12 shs Ophir at 220 per foot.
 12 shs Ophir at 217½ per foot.
 45 shs Ophir at 215 per foot.
 12 shs Ophir at 220 per foot, b. 30.
 12 shs Ophir at 214 per foot, s. 10.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, Sept. 1st, 1866.

We have been at some pains to collect the following facts in regard to the local insurance companies of this city:

Pacific.—According to their third annual statement, embracing operations from June 30th, 1865, to July 1st, 1866, this Company had, at the latter date, assets amounting to \$1,113,862.82. The total income for this period sums up \$504,326.11, and their disbursements amounted to \$358,550.13. Fire risks written up during the year, \$15,804,328; Marine risks, from August 1, 1865, to date of report, \$5,450,816. Risks in force, June 30, 1866—Fire, \$13,634,150; Marine, \$1,209,121.

San Francisco.—In July last, this Company increased its capital stock from \$150,000 to \$300,000, consisting of 3,000 shares of \$100 each. Their assets at this time amount to about \$350,000.

Occidental.—The stock of this Company has been changed from 300 shares at \$1,000 each, to 3,000 at \$100—full paid. Their assets, at the close of July, amounted to \$338,000.

Union.—At the date of their annual report, April 30th, the assets of this Company amounted to \$852,911.20, and on July 31st, \$835,874.83—less dividends. A dividend of 2 ½ cent. per month on the capital stock was paid for the months of May and June. Quarterly dividends will be declared hereafter in the months of October, January, April, and July.

Merchants' Mutual.—The shares of this Company have been increased to 1,000, and the stock has been reduced from \$5,000 per share, to \$500. Sixty per cent. of the capital stock has been paid in. Assets, August 1st, \$312,000.

In this connection we append the following statement, showing the assets of the different local companies for the past months of the present year, as compared with the annual returns made December 31st, 1865. It will be noticed that an additional company—the National—has been organized since that time, and is embraced in this list:

NAME.	Date.	Assets.	Assets on Dec. 31st, 1865.	Increase.
Pacific	July 1	\$1,113,862.82	\$1,051,420.37	\$62,442.45
National	August 31	850,000.00	—	850,000.00
Union	July 31	835,874.83	502,461.04	333,413.79
Fireman's Fund	June 30	681,577.00	635,373.74	46,203.26
San Francisco	July 1	350,000.00	275,806.92	74,193.08
Occidental	July 1	338,000.00	75,800.41	262,199.59
San Francisco Home	July 1	325,000.00	306,032.41	18,967.59
Merchants' Mutual Marine	August 1	312,000.00	287,201.85	24,798.15
California	July 31	289,737.00	242,990.19	46,746.81
Home Mutual	No Report	—	—	—
Totals		\$5,096,371.65	\$3,377,088.91	\$1,719,282.72

If we take from the aggregate assets, as reported above, the sum of \$850,000 (comprising the amount of assets held by the National Insurance Company) we find a gain of \$869,282.72, as against the total assets reported 31st of last December. Including the \$850,000 as an increase of assets, we have a total increase of \$1,719,282.72 by the nine companies designated in the above statement.

The Mining Share Market during the past week, with but few exceptions, has been characterized by extreme dullness, most stocks having declined from previous quotations.

Hale & Norcross continues inactive but is firmly held, meeting with small sales at \$1,600, h. 30. From the 1st to the 28th ult., 2,391 tons of ore were sent to different mills, yielding \$118,000, or an average of about \$50 per ton.

Savage has been dealt in to some extent, declining from \$1,160 to \$1,100, rose to \$1,105, receded to \$1,070, rallied again to \$1,090, and sold yesterday at \$1,085. During the week ending August 25th,

12 shs Ophir at 214 per foot.
 4 shs Crown Point at 915 per ft, b. 30.
 4 shs Crown Point at 950 per foot.
 2 shs Yellow Jacket at 707½/715 pr ft, s. 3
 1 shs Yellow Jacket at 710 per foot, b. 30.
 1 shs Yellow Jacket at 710 per foot, s. 30.
 2 shs Yellow Jacket at 700 per foot, s. 3.
 3 shs Belcher at 160 per foot, s. 3.
 4 shs Belcher at 165 per foot, b. 30.
 2 shs Savage at 1100/1105 per foot, s. 3.
 2 shs Savage at 1100 per foot.
 1 shs Savage at 1095 per foot, s. 3.
 2 shs Savage at 1090 per foot, s. 30.
 1 shs Savage at 1090 per foot.
 1 shs Imperial at 97 per share.
 5 shs Imperial at 96 per share, s. 31.
 3 shs Sierra Nevada at 2 per share, s. 30.
 28 shs Overman at 21½ per share.
 10 shs Overman at 21 per share, s. 30.
 5 shs Overman at 21½ per share.
 5 shs Overman at 21 per share b. 5.
 25 shs Overman at 21 per share.
 10 shs Overman at 21½ per share, b. 10.
 20 shs Overman at 22 per share, s. 3.
 10 shs Overman at 22 pr share, b. 30.
 10 shs Confidence at 44 per share.
 5 shs Confidence at 44 per share, s. 3.
 7 shs Oakland Railroad at 52½ per share.
 \$5,000 Legal Tender Notes at 71½c. h. 5.
 \$9,700 Legal Tender Notes at 71½c.

AFTERNOON SESSION.

12 shs Ophir at 215 per foot, s. 3.
 12 shs Ophir at 222½ per foot, h. 30.
 12 shs Ophir at 217½ per foot.
 45 shs Ophir at 215 per foot.
 36 shs Ophir at 225 per foot, b. 30.
 12 shs Ophir at 218 per sh, s. 30.
 1 shs Yellow Jacket at 705 per foot.
 3 shs Yellow Jacket at 707½/712 pr ft.
 3 shs Yellow Jacket at 701 per foot.
 2 shs Belcher at 165 per foot, h. 30.
 1 shs Belcher at 162½ per foot.
 5 shs Chollar-Potosi at 162 per foot.
 1 shs Savage at 1090 per foot, s. 30.
 2 shs Savage at 1090/1085 per foot, h. 3.
 10 shs Imperial at 96 per share, s. 10.
 7 shs Imperial at 95 per share, s. 3.
 5 shs Bullion at 26 per share, s. 30.
 10 shs Overman at 20 per share, s. 30.
 20 shs Overman at 20 per foot, s. 3.

30 shs Sierra Nevada at 2 per share.
 \$5,000 Legal Tender Notes at 71½c. b. 30.
 Amount of sales \$ 51,394 25

Wednesday, August 29.

11 shs Savage at 1070/1085 per foot, s. 3.
 1 shs Savage at 1070 per foot.
 1 shs Savage at 1075 per foot, s. 5.
 1 shs Savage at 1075 per foot.
 1 shs Savage at 1075 per foot, s. 10.
 1 shs Savage at 1070 per foot, s. 30.
 1 shs Savage at 1080 per foot.
 4 shs Gould & Curry at 710 per foot.
 2 shs Yellow Jacket at 712½ per foot, s. 3.
 2 shs Yellow Jacket at 715 per foot, s. 3.
 2 shs Yellow Jacket at 710 per foot, s. 3.
 1 shs Yellow Jacket at 725 per foot, s. 3.
 1 shs Yellow Jacket at 725 per foot, b. 5.
 1 shs Yellow Jacket at 725 per foot, h. 3.
 4 shs Crown Point at 935 per foot, c.
 1 shs Chollar-Potosi at 160 pr ft, s. 3.
 5 shs Chollar-Potosi at 161 per foot, s. 3.
 6 shs Chollar-Potosi at 160 per ft, s. 30.
 10 shs Chollar-Potosi at 165 per foot, b. 30.
 10 shs Chollar-Potosi at 163 per foot, h. 30.
 12 shs Ophir at 221 per foot, s. 30.
 12 shs Ophir at 221 per foot, c.
 1 shs Belcher at 160 per foot, c.
 5 shs Imperial at 95½ per share.
 5 shs Overman at 20½ per share.
 5 shs Overman at 20 per share.
 50 shs Overman at 20 per share, s. 30.
 5 shs Overman at 19½ per foot, s. 30.
 10 shs Overman at 20½ per foot, h. 30.
 5 shs Overman at 20 per share, h. 10.
 \$5,000 Legal Tender Notes at 70½c.
 \$5,000 Legal Tender Notes at 70½c.

AFTERNOON SESSION.

2 shs Chollar-Potosi at 155 per foot.
 5 shs Chollar-Potosi at 150 per foot, h. 10.
 1 shs Chollar-Potosi at 140 per foot.
 1 shs Chollar-Potosi at 142½ per foot.
 5 shs Yellow Jacket at 720 per foot.
 2 shs Yellow Jacket at 725 per foot, h. 30.
 1 shs Yellow Jacket at 720 per foot, s. 5.
 1 shs Empire M & M Co. at 95 per share.
 6 shs Confidence at 47½ per sh, h. 30.
 6 shs Lady Bryan at 1¼ per share.
 15 shs Overman at 19 per share, s. 3.
 55 shs Overman at 19 per share, h. 3.
 5 shs Overman at 19 per share, b. 5.

975 tons of ore have been extracted, and 1,060 tons were shipped from the mine. The south face of the drift, sixth station, continues in ore, inclining rapidly to the westward. North body, same level, has contracted very much, but overhead is still looking very well. The east cross-cut through the Potosi chimney develops but little ore. The south winze, from the 5th station, has been sunk to a depth of 14 feet, the last few feet in good ore. Considerable water is met with at this depth and work has been suspended for the present. The drift from the 7th station is in 82 feet from the shaft—the rock is hard and work progresses slowly. Little has been done in the southwest drift of the Curtis shaft; the west drift looks very well. Receipts of bullion during the month of August amounted to \$145,000.

Crowa Point has met with few sales, receding from \$950 to \$935. For the week ending August 26th, 649 tons of ore have been raised from the mine. The drift on the 400-foot station, is in 170 feet. The Rhode Island mill is now crushing about 50 tons of ore per day. No important change to note in the mine. The yield of bullion last month amounted to some \$80,000.

Gould & Curry is in little request, and but few feet changed hands the past week, declining from \$720 to \$710, and quoted yesterday at \$700. The small deposits of rich ore discovered recently in the drift from the Roaner shaft—2d station—continue as work progresses in the incline. The prospects of leading down into a large body of the same quality of ore are thought to be very good, and an average assay shows a yield of \$485 to the ton. The incline is now in porphyry and is likely to continue so to the 100 feet for which they are sinking. The drifts on the 4th station show no change. Receipts of bullion for the month of August amounted to \$120,000.

Yellow Jacket has improved, opening at \$730, receding to \$710, advancing to 745, and selling yesterday at \$730. For the week closing Monday, 27th ult., 38 tons of first-class and 2,450 tons of second-class ore were extracted from the mine, and the yield of bullion exceeded \$92,000, making an aggregate of \$246,500 for the first four weeks of August.

Ophir has been dealt in to the extent of over 100 feet, ranging from \$210 to \$221, closing at \$210 bid. There is nothing of any interest to note from this claim.

Chollar-Potosi declined from \$178 to \$142, closing yesterday at \$129. During the past week 534 tons of ore were sent to custom mills. From the 485-foot level, in the Potosi ground, 100 tons of ore of an inferior quality were extracted, but better results are shortly expected. The new engine is now being placed in position. The decline in this stock the past week has been in part attributed to the rumor that an assessment would soon be levied; but this is not likely to occur with a balance of \$40,000 in the treasury of the company.

Belcher has also met with a decline, advancing early in the week from \$155 to \$162, declining to \$145, s. 20, and closing yesterday at \$125. Empire Mill and M. Co., receded from \$110 to \$97½, closed at \$103 per share.

Imperial has been well maintained, at \$97/98, closing at \$95 per share. During the first three weeks of August the receipts of bullion amounted to \$48,000, and will probably aggregate \$80,000 for the entire month. The improvements in the ore of the Alta mine noted for some time past, now apply to that found in the Holmes' ground, which latter, it is thought, is yielding some \$30 per ton.

Overman receded from last quotations, fluctuating within a range of \$22¼/16, and closed at \$11½. An assessment of \$15 was levied on the 24th of August. Confidence sold yesterday at \$43. Bullion receded from \$28 to \$24½, closing at \$20.

Legal Tender Notes to the amount of \$55,000 were dealt in the past week, advancing from 71 to 72½c, b. 30, receding to 70½, and selling yesterday at 71½.

Our latest telegraphic advices quote gold at the East at 148 on the 30th ultimo.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$322,729.75.

15 shs Overman at 19 per share.
 25 shs Overman at 20 per share, b. 30
 10 shs Imperial at 95½ per share, h. 3.
 Amount of sales \$ 52,869 00

Thursday, August 30.

2 shs Chollar-Potosi at 145 per foot.
 5 shs Chollar-Potosi at 145 per foot, s. 3.
 12 shs Chollar-Potosi at 143 per foot, s. 30.
 5 shs Chollar-Potosi at 146 per foot, h. 30.
 5 shs Chollar-Potosi at 146/148 pr ft, s. 3.
 6 shs Chollar-Potosi at 141 per foot, s. 3.
 5 shs Chollar-Potosi at 141 per foot, s. 10.
 1 shs Yellow Jacket at 725 per foot.
 1 shs Yellow Jacket at 740 per foot, h. 30.
 1 shs Yellow Jacket at 730 per foot, h. 30.
 1 shs Yellow Jacket at 730 per foot, s. 30.
 1 shs Yellow Jacket at 745 pr ft, h. 30.
 4 shs Yellow Jacket at 730 per ft, s. 3.
 1 shs Yellow Jacket at 750 per foot, c.
 12 shs Ophir at 218 per foot, s. 3.
 12 shs Ophir at 218 per foot.
 12 shs Ophir at 218 per foot, s. 30.
 11 shs Empire M & M Co at 97½ per share.
 5 shs Sierra Nevada at 2½ per share.
 15 shs Overman at 19 per share.
 5 shs Overman at 19 per share.
 5 shs Overman at 18½ per share.
 10 shs Overman at 18 per share, s. 30.
 19 shs Overman at 19 per share, h. 30.
 5 shs Overman at 18½ per share, h. 10.
 10 shs Overman at 18½ per share, s. 3.
 10 shs Overman at 17½ per share, s. 30.
 10 shs Overman at 18 per share.
 5 shs Overman at 18 per share, h. 30.
 10 shs Overman at 17 per share.
 10 shs Overman at 17 per share, s. 3.
 10 shs Overman at 17 per share, s. 30.
 10 shs Overman at 17½ per share.
 5 shs Confidence at 43½ per share, h. 30.
 10 shs Confidence at 43 per share, h. 30.
 2 shs Bullion at 23 per share, s. 3.
 10 shs Bullion at 24 per share.
 8 shs Bullion at 24½ per share.
 1 shs Imperial at 96 per share.
 5 shs Imperial at 96 per share.
 6 shs Imperial at 96½ per share.

Friday, August 31.

3 shs Savage at 1085/1090 per foot.
 7 shs Savage at 1085/1090 per foot, s. 3.
 1 shs Savage at 1085 per foot, b. 5.
 1 shs Savage at 1085 per foot, s. 30.
 1 shs Savage at 1085 per foot, h. 3.
 5 shs Yellow Jacket at 730/735 per foot.
 6 shs Yellow Jacket at 730/740 pr ft, s. 3.
 11 shs Yellow Jacket at 740/530 per ft, s. 30.
 5 shs Yellow Jacket at 730/740 pr ft, h. 30.
 24 shs Gould & Curry at 700 per foot.
 7 shs Belcher at 140 per foot, h. 30.
 18 shs Chollar-Potosi at 155/137 per foot.
 2 shs Chollar-Potosi at 150 pr ft, s. 3.
 9 shs Chollar-Potosi at 155 per foot, s. 30.
 1 shs Empire M & M Co at 104 per share.
 5 shs Confidence at 47½/48 per share.
 35 shs Bullion at 22½ per share.
 10 shs Overman at 16½ per share.
 6 shs Overman at 15 per share, h. 10.
 15 shs Overman at 16½/16½ per share, h. 30.
 15 shs Overman at 16½/14½ per sh.
 10 shs Overman at 14 per share.
 4 shs Daney at 4½ per share.
 120 shs Lady Bryan at 1¼ per share.
 1 shs Cal Steam Nav Co at 75 per cent.
 \$3,600 Legal Tender Notes at 71½c.

AFTERNOON SESSION.

8 shs Belcher at 127½/130 per foot.
 11 shs Belcher at 125/120 per foot.
 1 shs Belcher at 117½ per foot, s. 30.
 2 shs Yellow Jacket at 720 pr foot.
 6 shs Yellow Jacket at 722½/730 pr ft.
 1 shs Yellow Jacket at 727½ per foot.
 1 shs Yellow Jacket at 735 per ft, b. 30.
 1 shs Chollar-Potosi at 129 per foot.
 1 shs Chollar-Potosi at 127½ per foot.
 20 shs Chollar-Potosi at 127½/126 per foot.
 23 shs Overman at 15½/12 per share.
 10 shs Overman at 15 per share, h. 10.
 45 shs Overman at 15 per foot, h. 30.
 10 shs Overman at 15½ per share, h. 30.
 \$1,000 U. S. 7-30 Bonds, June issue, 77½c.
 Amount of sales \$ 63,861 00

MINING SHAREHOLDERS' DIRECTORY,

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals].

Comprising the Names of Companies, District or County of Location, Amount of Assessment, Date of Meeting, Day of Dividend sale, and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT OF ASSESSMENT.	DAY OF MEETING.	DAY OF DIVIDEND SALE.
Auriferous M. Co. Cal. \$1.	Sept 25—Oct 1	Sept 25—Oct 1	Sept 25—Oct 1
Antioch P. Petrol. Co. Contra Costa Co. \$2.	Sept 25—Oct 1	Sept 25—Oct 1	Sept 25—Oct 1
Blue Ledge O. S. & Q. M. Co. Cal.	Annual Meeting Aug 27	Sept 15—Oct 1	Sept 21
Belcher Co. \$45.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Consolidated S. H. M. Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Chilpaneca M. Co. \$250.	Sept 25—Oct 1	Sept 25—Oct 1	Sept 21
Capitola O. S. & Q. M. Co. Cal.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
China S. M. Co. Mex. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Combarilla O. S. & Q. M. Co. Mex.	Special Meeting Aug 25	Sept 15—Oct 1	Sept 21
Confidencia S. M. Co. Mex. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Crown Point, dividend, \$900.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Confidencia S. M. Co. Storey Co. Nev.	div. 10 p. c. Pay July 9	Sept 15—Oct 1	Sept 21
Cole F. M. Co. Storey Co. Nev. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Diana G. & S. M. Co. Nev. \$5.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Diamond S. M. Co. Del Norte Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Del Norte Comstock Co. Del Norte Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Daney I. & S. M. Co. Lyon Co. Nev.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Eagle Quartz M. Co. Amador Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Exchange M. Co. Storey Co. Nev. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
El Tiro M. Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Enterprise G. & S. M. Co. Meadow Lake \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Eureka, San Juan, dividend \$1.50 per sh.	Pay immediately	Sept 15—Oct 1	Sept 21
Gen. Washington G. & S. M. Co. Alp. Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Gold Hill, dividend \$1.50 per sh.	Pay immediately	Sept 15—Oct 1	Sept 21
Gould & Curry, dividend \$300.	Pay immediately	Sept 15—Oct 1	Sept 21
Hampden S. M. Co. Del Norte Co. \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Hale & Norcross, dividend.	Payable Aug 15	Sept 15—Oct 1	Sept 21
I. L. G. & S. M. Co.	Annual Meeting Sept 13	Sept 15—Oct 1	Sept 21
Imperial G. & S. M. Co. dividend \$600.	Payable Aug 15	Sept 15—Oct 1	Sept 21
Independent G. & S. M. Co. dividend.	Payable Aug 15	Sept 15—Oct 1	Sept 21
Independent G. & S. M. Co.	Meeting Sept 24	Sept 15—Oct 1	Sept 21
Jefferson G. & S. M. Co. Yuba Co. Div. \$100.	Payable Aug 21	Sept 15—Oct 1	Sept 21
Jeffrey Oil M. Co. Humboldt Co. \$200.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Kentucky C. M. Co. Cal.	Annual Meeting Aug 22	Sept 15—Oct 1	Sept 21
Kentucky C. M. Co. Calaveras Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Lady Bell C. M. Co. Del Norte Co. \$100.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Leland, Arizona, \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Lady of the Lake, Arizona, \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Lady Bryan, \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
La Victoria C. M. Co. Mariposa Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
La Victoria C. M. Co.	Annual Meeting Sept 3	Sept 15—Oct 1	Sept 21
Marine Star G. & S. M. Co. Alpine Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Mina Rica de las Flores M. & M. Co. Cal. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Nuestra Sra de Guadalupe S. M. Co. Cal. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Nacorel G. & S. M. Co. Nevada, \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Old Colony S. M. Co. Nevada, \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Overman S. M. Co. \$150.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Patrolina and Dolores S. M. Co. \$125.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Rattlesnake G. & S. M. Co. Yuba Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Refugio M. Co. of Jesus Maria, Mex.	Annual Meeting Sept 13	Sept 15—Oct 1	Sept 21
San Marcial S. M. Co. Mex. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Santa Cruz Petrol. Oil Works Co. \$1.	Annual Meeting Sept 2	Sept 15—Oct 1	Sept 21
Segregated Belcher M. Co. Nev. \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Simpson M. & M. Co. Alpine Co. \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
St. John & E. Co. Humboldt Co. Nev. \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Santa Cruz Pet. Oil Co. \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Santiago M. Co. dividend.	Payable July 7	Sept 15—Oct 1	Sept 21
Sierra Nevada S. M. Co. Nev. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Santa Rosa G. & S. M. Co.	Annual Meeting Sept 3	Sept 15—Oct 1	Sept 21
Sierra Valley G. & S. M. Co. Cal.	Annual Meeting Sept 12	Sept 15—Oct 1	Sept 21
Santon M. Co.	Annual Meeting Sept 12	Sept 15—Oct 1	Sept 21
Trensch G. & S. M. Co. Cal. \$500.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Trujillo Mountain G. & S. M. Co. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Union M. Co. & S. M. Co. L. C. \$1.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
Union Mattole Oil Co. Humboldt Co. \$150.	Sept 15—Oct 1	Sept 15—Oct 1	Sept 21
White & Murphy G. & S. M. Co.	Annual Meeting Sept 4	Sept 15—Oct 1	Sept 21
Yellow Jacket S. M. Co. div. \$500.	Payable Aug 15	Sept 15—Oct 1	Sept 21

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, August 21, 1888.	
Bid.	Asked.
United States 7 1/10ths.	77 1/4
Gov. Loan Tender Notes.	77 1/4
State Bonds, 7 per cent.	74 1/4
San Francisco 10 per cent.	100
San Francisco Bonds, 1855, 6 per cent.	63 1/2
San Francisco Gas.	110
San Francisco Bonds, 1858, 8 per cent.	69
Sacramento City Bonds, 6 per cent.	19
Sacramento County Bonds, 6 per cent.	80
Marysville Bonds, 10 per cent.	16
Stockton Bonds, 10 per cent.	80
Yuba County Bonds, 10 per cent.	80
Butte County Bonds, 10 per cent.	70
California Navigation Co.	75
State Telegraph Stock.	31
San Francisco Gas Co.	130
Sacramento Gas Co.	75
Spring Valley Water Co.	64

RAILROADS.	
Sacramento Valley Railroad.	80
Omniabus Railroad.	54
Central Railroad Co.	44
North Beach and Mission.	44

MINING STOCKS.	
Alpha.	75
Baltimore American.	22
Bullion, G. H.	22
Belcher.	137
Confidencia.	45
Ophir.	210
Gould & Curry.	700
Empire M. & M. Co.	102
Savage.	1075
Chollar Potots.	135
Hale & Norcross.	1600
White & Murphy.	2 1/2
Sierra Nevada.	730
Yellow Jacket.	740
Overman.	102
Crown Point.	920
Imperial.	95

San Francisco Market Rates.

WHOLESALE PRICES.	
FRIDAY, Aug 31, 1888.	
Flour, extra, 40 lbs.	5 00 @ 5 50
Do Superfine.	4 50 @ 4 75
Corn Meal, 40 lbs.	1 45 @ 1 55
Wheat, 40 lbs.	1 45 @ 1 55
Oats, 40 lbs.	1 40 @ 1 50
Barley, 40 lbs.	90 @ 1 05
Beans, 40 lbs.	3 60 @ 5 50
Potatoes, 40 lbs.	40 @ 60
Hay, 40 lbs.	7 00 @ 13 50
Lard, 40 lbs.	8 00 @ 10 00
Beef, on foot, 40 lbs.	8 @ 8
Beef, extra, dressed, 40 lbs.	10 @ 12 1/2
Sheep, on foot, 40 lbs.	1 00 @ 2 00
Hogs, on foot, 40 lbs.	8 @ 8
Hogs, dressed, 40 lbs.	10 1/2 @ 13
GROCERIES, ETC.	
Sugar, crushed, 40 lbs.	13 @ —
Do China.	10 @ 11
Coffee, Costa Rica, 40 lbs.	24 @ 25
Do Rio.	23 @ 23 1/2
Tea, Japan, 40 lbs.	90 @ —
Do Green.	70 @ 1 00
Hawaiian Rice, 40 lbs.	9 @ —

China do.	6 1/2 @ 7 1/2
Coal Oil, 40 lbs.	70 @ 75
Candles, 40 lbs.	15 @ 22
Ranch Butter, 40 lbs.	32 1/2 @ 45
Isthmus do.	30 @ 37 1/2
Cheese, California, 40 lbs.	10 @ 17
Eggs, 40 doz.	— @ 50
Lard, 40 lbs.	19 @ 20
Ham and Bacon, 40 lbs.	20 @ 21
Shoulders.	12 1/2 @ 15

Retail Prices.

Butter, California fresh 40 lbs.	45 @ 60
do pickled 40 lbs.	34 @ 40
do Oregon.	35 @ 40
do New York, 40 lbs.	40 @ 50
Cheese, 40 lbs.	30 @ 40
Honey, 7 1/2 doz.	50 @ 60
Eggs, 40 doz.	50 @ 60
Lard, 40 lbs.	22 1/2 @ 25
Hams and Bacon, 40 lbs.	22 1/2 @ 25
Cranberries, 40 gal.	75 @ 1 00
Potatoes, old, 40 lbs.	— @ 1
do New 40 lbs.	24 @ 25
Tomatoes, 40 lbs.	6 @ 5
Onions, 40 lbs.	6 @ 5
Apples, No. 1, 40 lbs.	3 @ 8
Pears, table 40 lbs.	8 @ 10
Plums, dried, 40 lbs.	20 @ 22
Peaches, dried, 40 lbs.	16 @ —
Oranges, 40 doz.	50 @ 50
Lemons, 40 doz.	75 @ 1 12
Chicken, 40 doz.	8 @ 10
Soap—Palm & C. O.	— @ 16
Castile.	— @ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, AUG. 31, 1888.	
Iron—Duty: Pig 60 tons; Railroad 60 tons; 100 lbs. bar	10 1/2 @ 11
10 1/2 @ 11; Sheet, polished, 30 lbs. common, 1 1/2 @	15 @ 16
15 @ 16; Plate 1 1/2 @ 16; Pipe, 1 1/2 @ 16; Galvanized	2 1/2 @ 3
2 1/2 @ 3	— @ —
Scotch and English Pig 30 tons	37 @ —
American Pig 30 tons	34 @ —
Refined Bar, had assortment, 40 lbs.	3 @ —
Refined Bar, good assortment, 40 lbs.	3 1/2 @ —
Bolter No. 1 to 4	4 @ —
Plate No. 5 to 9	4 1/2 @ 6
Sheet No. 10 to 13	4 @ —
Sheet No. 14 to 20	5 @ —
Sheet No. 24 to 27	5 1/2 @ —
Copper—Duty: Sheet 3 1/2 @ 40; Pig & Bar 2 1/2 @ 40	— @ —
Sheeting, 40 lbs.	34 @ 36
Sheeting, Yellow.	20 @ 30
Sheeting, Old Yellow.	13 @ 14
Bolts.	13 @ 18
Composition Nails.	30 @ 32
IN PLATES—Duty: 2 1/2 @ 36	— @ —
Plates, Charcoal, 10 @ box.	18 @ 17
Plates, 1 C charcoal.	14 @ 15
Roofing plates.	12 @ 13
Bauca Tin Sheds.	25 @ 27
STEEL—English Cast Steel, 40 lbs.	12 1/2 @ 15
QUICK-STEEL—Per lb.	60 @ 60
For export.	— @ 50
ZINC—Sheets 40 lbs.	— @ 11
LEAD—Pig 40 lbs.	8 @ —
Sheet.	10 @ 12
Pipe.	10 @ 12
BAR.	10 @ 11
BORAX—California, 40 lbs.	20 @ 23

Postage.—The postage on the MINING AND SCIENTIFIC PRESS is paid by the publisher, and is included in the price of the paper. Postage free in the city and country. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and Hamburg lines, three cents per copy, prepaid. Single copies to any address in the United States, two cents.

[ADVERTISEMENT.]

San Francisco City and County Union Ticket.

For City and County Attorney:

HORACE M. HASTINGS.

For Chief of Police:

PATRICK CROWLEY.

For Auditor:

HENRY M. HALE.

For Tax Collector:

CHARLES R. STORY.

For Public Administrator:

WM. A. QUARLES.

For Superintendent of Streets:

GEORGE COFRAN.

For Fire Commissioners:

BENJ. H. FREEMAN, JOHN V. McELWEE.

For Supervisors:

WARDEN.

1st.....Henry S. Brown

3d.....Samuel Brannan

5th.....Morris Ashbury

7th.....Charles Clayton

School Directors:

WARDEN.

1st.....E. H. Coe

3d.....W. F. Hale

6th.....W. Ayer

Union County Central Committee:

WARDEN.

1st.....Leonard Morse

2d.....L. Selinger

24.....E. H. Washburn

3d.....F. T. Bann

3d.....E. B. Vreeland

4th.....James Kelly

5th.....W. H. Tamm

5th.....John Banning

6th.....T. J. Blakeney

6th.....John Reynolds

6th.....D. D. Shattuck

7-13

DEMOCRATIC NOMINEE!

—FOR—

PUBLIC ADMINISTRATOR,

Col. M. C. SMITH.

7-13

[ADVERTISEMENT.]

NATIONAL UNION

Democratic City and County Ticket.

For Chief of Police:

P. J. WHITE.

For Tax Collector:

GEN. H. A. COBB.

For Auditor:

WASHINGTON BARTLETT.

For Superintendent of Streets:

LEANDER WINTRINGER.

For City and County Attorney:

SELDEN S. WRIGHT.

For Public Administrator:

COL. M. C. SMITH.

For Fire Commissioners:

JOHN BARR, SIMON T. WALSH.

For Supervisors:

WARDEN.

1st.....P. H. Daly

3d.....Wm. B. Fairman

5th.....Michael O'Neil

11th.....Frank McCoppin

For School Directors:

WARDEN.

1st.....Michael Daly

3d.....Dr. J. C. Shorb

5th.....Peter Johnson

For Constables:

First Township.....Samuel Bridgewood

Second Township.....Cornelius Money

Third Township.....Wm. S. Jones

Fourth Township.....Thomas Agnew

Fifth Township.....John Kelly

Sixth Township.....John Kelly

First Township.....Samuel Bridgewood

Second Township.....Cornelius Money

Third Township.....Wm. S. Jones

Fourth Township.....Thomas Agnew

Fifth Township.....John Kelly

Sixth Township.....John Kelly

First Township.....Samuel Bridgewood

Second Township.....Cornelius Money

Mining Summary.

CALIFORNIA.

Alpine County—

From the Silver Mountain *Bulletin* of August 18th we clip the following items: The main lode in the George Washington company's claim has been struck, revealing a vein of ore four feet in thickness, as rich as any from the Savage or Gould & Curry. Speculations regarding the permanency of this lode or of its value have merged into a certainty. Ores of the first quality can now be readily obtained in sufficient quantities to keep a 10-stamp mill in constant operation. . . . California Illinois Company, Raymond district, have gone through their adamantine formation, and struck into a softer formation of the same material, and are now enabled to make two feet each shift.

The "corner stone" of the George Washington company's mill was laid on the 13th, with ceremony. The occasion was one of rejoicing to all the citizens, for they saw in it the dawning of a new era in the fortunes of Alpine. Some two hundred, many of whom were ladies, were present. The mill will be completed by the first of October.

Same paper of 25th says: Work is progressing rapidly upon the Washington mill and mine. The ore is improving. On the day of the "dedication," a specimen was exhibited which was valued at \$300 per ton, and was taken from the main lode where the pyrite is four feet in thickness, and uniform in quality.

The *Alpine Miner* has the following: The contractors, Kustel & Uznay, have two men at work, assorting ore at the Morning Star mine, to be hauled to the mill at Davidson's as soon as the platform is ready to receive it. . . . The Mowyer tunnel goes on slowly, the rock being hard. It is now in 150 feet. . . . The American T. & S. M. company now have about 140 feet of tunnel leading from the main shaft, drained by their water-wheel. If the Kustel & Uznay works prove a success—which few doubt—the American will soon erect similar furnaces with mill of fifty tons capacity.

Amador County—

The following items are from the *Ledger* of August 25th: Messrs. J. L. Ripley and Albert E. Crane have purchased from the locators seven thousand feet of mining ground lying east of Hunt's Gulch, between Scottsville and the Mokelumne river. They have a number of men at work sinking shafts, etc., and will thoroughly prospect their ground. . . . A recent crushing of 170 tons of ore from the Grande Vista made an average yield of about fourteen dollars to the ton. . . . The Kelly & Stevenson made a clean up yesterday. The result is said to have been entirely satisfactory, though we have not learned the amount per ton. . . . The Anaconda is once more under way, with fine prospects ahead. . . . The Excelsior did not pay. Some forty tons of ore, worked at the Fogus mill, yielded about four and a half dollars per ton. The probabilities are that by going deeper better rock will be found. . . . The Tellurium has temporarily suspended to prepare for sinking deeper. . . . The Golden Eagle (Vaughn & Co.) are still getting rich rock, which is being crushed at the Tellurium mill. . . . The Iron Bound (Sorocco & Co.) is now down to a depth of about 200 feet. The rock looks well and will soon be tested.

Butte County—

The *Record* of the 25th August says: Messrs. Louis McLane, A. F. Williams, and other gentlemen from San Francisco, visited this placer mining locality on Thursday, with a view of ascertaining the probability of its affording a profit upon the cost of constructing an expensive canal to supply it with water for mining purposes.

Calaveras County—

The Copperopolis *Courier* of August 25th gives these items: A very rich strike was made yesterday in the Gold Hunter mine, situated in Salt Spring valley, which, from present appearances, is likely to prove the "biggest thing" in the country. Specimens of the quartz were brought to town, which showed about one-quarter pure gold. . . . The Antelope copper claim is being rapidly developed. We learn from a gentleman interested that during the past week they have found a vein which prospects satisfactorily. . . . We are informed, says the *Register*, that the quartz claim of Woods & Co., situated about six miles west of Murphy's, is paying exceedingly well. They have a vein about a foot or eighteen inches wide, the rock from which pays, when crushed in an arastra, from \$150 to \$200 a ton. Two tons of the rock crushed last week yielded \$338.

Fresno County—

The Mariposa *Free Press* of 18th August says: Five teams were loaded at the Buchanan copper mines during the past week, with ore for shipment via Stockton. The amount transported was 86,000 pounds. The water is now at too low a stage for shipment by the Upper San Joaquin route. . . . Owens, Moore & Coghill, of Stockton, have purchased the in-

terest of N. Haskell in the Buchanan Vein and smelting works for \$22,000.

Kern County—

The *Alta* of August 24th gives the following from a correspondent:—I have thought it would not be amiss to give your readers a history of the mills running in the Clear Creek District, discovered two years ago: The Delphi Co.'s mill, 10 stamps; Piper's, 12; Gen. Grant, 10; Kalluna Wright, 5; Bigler Co., 10; Clarkson, 8; Rand & Co., 10; Marsh & Co., 6—a total of 72 stamps, all of which are running on good paying ore that yields \$20 per ton. We have plenty of wood and water. We crush ores by the ton, not by the load as in Grass Valley; and, when properly adjusted, I hazard nothing in saying that our yield is larger per ton than in Grass Valley. These are facts, and I wish to call the attention of capitalists to them. We have in course of construction in our immediate neighborhood three 20-stamp mills, that will be in motion in the next thirty days, with plenty of ore out to keep them running. There are also the Mammoth Co., 20 stamps; the Jo. Walker Co., 20 stamps, and the Eldridge & White Co., 20 stamps. Twelve months ago we had one 5-stamp mill only in the District.

Klamath County—

The Humboldt Bay *Journal* of Aug. 16th says:—Two and a half tons of copper ore arrived here on last Sunday from the Capparum District, in Klamath county. This ore is from the "Red Cap" claim, and is very rich. The owners of the claim intend sending it to San Francisco to have its value tested, and as a sample of their mine. We predict that the whole two and a half tons will yield over fifty per cent. pure copper. Those interested say they have struck a regular and well-defined lead of this ore.

Los Angeles County—

The *News* says: The Rochester mine is located in the most western portion of San Bernardino county, Slate Range district, about one hundred and fifty miles from Los Angeles. This mine has been in product for nearly four years, and above 5,500 tons have been reduced, at an average of \$16 per ton. It was sold subsequently at Sheriff's sale; but late returns show the mine to be very rich.

Nevada County—

The *Gazette* has these items: The owners of the U. S. Grant ledge have lately had fourteen tons of rock crushed at the mill of Perseus & Co., near Carlisle, which yielded forty-one ounces of bullion valued at \$732.28, being at the rate of \$52.30 a ton. . . . We learn that the quartz mill now in course of construction on John Young's ledge, near Eureka, is rapidly approaching completion. The machinery and other materials are all on the ground, and it is expected that the mill will be started up early next month. The mill is being erected by R. C. Black, for an interest in the ledge. . . . We have been shown some fine specimens of sulphuret ore from the bottom of the incline of the Banner mine, at a depth of about one hundred and eighty feet from the surface.

We clip from the *National*: Forty-two tons of rock from the Ben Franklin mine have just been crushed at the Sebastopol mill. The company are down but a short distance on their ledge, yet the rock taken out yielded thirty-five dollars to the ton. . . . A 400 foot shaft is to be sunk on the Daisy Hill mine. It is already commenced and is to be eleven by four and a-half feet in the clear. . . . Capt. Kidd has lately sold an interest of five-twelfths in one of his quartz claims for the sum of \$62,500.

The *Union* says the Washington ledge, or Jefferson Hill, about three and a-half miles from Grass Valley, on the Crandall grade, was struck on Thursday last. Work has been energetically pushed in driving a tunnel for this ledge since April last, and at a distance of about 248 feet from the mouth of the tunnel the vein was struck.

EXCELSIOR.—The Meadow Lake *Sun* says: The owners of the Enterprise mine, five miles from Meadow Lake, are sending ore to Winton's mill, to see how that mill will succeed in saving the gold. We judge from this that the managers of the mill erected at the mine have not yet succeeded in working the ore satisfactorily. . . . Excelsior Company have struck uncommonly rich ores in their mine. Some of the owners think it will work as high as \$1,000 a ton. How much of that kind of ore they have found is not stated. . . . Bullion shipments from this place during the present month are as follows: The 22d inst., Mountain Chief, \$188; same date, Mohawk and Montreal, \$833.60; 24th, U. S. Grant, \$827.12; same date, Gold Run Phoenix, \$698. In addition to the above, on Friday, there was received from the Grant a bar of \$732.28 for shipment.

We condense the following from the Mendocino Lake correspondence of the *Alta*: Not until the exodus of the laboring population, and until a stagnation of business prevailed, did the people realize their fatal mistake in overlooking the true source of their prosperity

and wealth—the mines. To this is attributable the unfavorable reports circulated abroad. It is a source of congratulation, however, that the people are beginning to realize that, although the possessors of valuable mines, they will remain in poverty until the same are made productive.

Placer County—

The *Herald* has these items: The Peter Waller claim is again turning out gold in abundance. Last week Mr. Waller took out several hundred dollars. In the language of a friend, who was at the claim, it looks "lousy." The vein is about twenty inches wide. . . . The Davenport company located their claim on Wednesday last. It is situated on the west branch of Baltimore Ravine. The location is for 2,600 feet. The rock looks well. . . . The Red Ravine ledge is located near Pino, and is owned by Messrs. McWade & Hartley. The owners are now erecting a 5-stamp mill to be run by a turbine wheel. They expect to be crushing quartz in about three weeks.

The following are from the *Stars and Stripes* of 22d August: Some splendid rock has been taken from the Civil Right's mine at the depth of 129 feet, the ledge being 22 inches wide. The owners will send all the rock they have out—some 50 or 60 tons—to Welly's mill to be crushed. . . . Messrs. Millette & Harvey have started up the mill on their ledge in Baltimore Ravine. . . . On Sunday last, a boy of from twelve to fourteen years of age, while crossing a quartz ledge which crops out about two feet wide, noticed gold in the rock, and on further examination it was found that there was a streak about two or two and-a-half inches wide in the center of the ledge nearly half gold. Three thousand feet on the ledge were speedily located and recorded in the name of the "Suffrage Company," who propose to go to work immediately.

It is said that Messrs. Treadwell, Harpending & Co., owners of the noted Banker mine (formerly known as the Baker & Crosby mine) at Whisky Diggings in this county, have effected a sale of one-half of the property to San Francisco capitalists for \$175,000—a high figure, but the mine is worth it. The new company intend to erect immediately a 20-stamp mill, and go to work in earnest. The mineral vein is about 100 feet in width, and the ore, which yields from \$7 to \$15 per ton, is worked with astonishing ease and rapidity.

Plumas County—

The *National* of 25th August, has the following from Nelson Point: Messrs. Murken & Shubert are working their claims, on Nelson creek, with a greatly improved water derriek.

Letter to same from Mineral township says: Mr. Wm. Jacks has been cleaning bed rock for the last two months, and doing well. Esq. Jacks, for last week's work averaged \$8 per day to the hand. Esq. Metcalf, on Gopher Hill, is still tunneling in his old claims, to get back to the inside channel, where the gold is coarse. Simpson, Acres & Co., in the creek at New Boston, are doing remarkably well. The Portuguese are making wages, and content to do so, having plenty of four-dollar ground to work for the next ten years. Calhoun & Co. are doing the big thing on Brandy Flat. Sam. Carr, at Meadow Valley diggings is still prosecuting his claim, with big expectations, from the good prospects he has in the gravel. John Tucker, Robinson, Wilson, and others, of Eagle Gulch, are all doing well. Mr. Brown, at the Cold Spring Retreat, near Spanish Ranch, has struck a side channel of gravel, which prospects well. Canada Paul and Major Brown, on Meadow Valley creek, are doing well—remarkably so.

Shasta County—

The *Courier* of 25th, has these items: South Fork prospects are very encouraging at present. Rock found in the shaft of the Chicago has proved to be extraordinarily rich in silver, with quite a respectable sprinkling of gold. Parties in San Francisco and Sacramento having become interested in the mine located by H. M. Peck, have commenced the work of development in earnest. . . . On Wednesday the Mammoth company ran a couple of tons of rock from the Harrison lode through their mill, and cleaned up thirty-six ounces of amalgam as the result. This amalgam will probably assay as high as five dollars per ounce, which will amount to \$180 for the two tons. . . . The Tornado company have just completed a new flume for the purpose of conveying water from the Clear Creek ditch to the hill back of Middletown, where they have located a claim of 3,600 feet. . . . Parties just in from Copper City report no new indication of striking the ledge in the Kellinger tunnel. The rock is quite hard at present, but the water which lately flooded the tunnel is subsiding. Capt. Stoffard has discovered new and very rich, but not extensive, placer diggings, in Horse creek. The gold is coarse, and found in "pot holes" in the bed rock.

Sierra County—

We clip the following items from the *Messenger* of August 25th: The American Hill mill is paying steadily and well. . . . In opening the Old Oro claims, the workmen have

struck a new vein, heretofore untouched, that it is estimated will pay \$30 per ton. We shall soon want more mills for working out rock. . . . Giles H. Gray, of the Gold Valley quartz mills, called on us a few days since, and reported progress. He informs us that the mill is in capital order, and that the prospects are very flattering.

Editorial column of same has the following: New and rich discoveries are daily reported; the older discoveries and developed property growing richer in depth, and yielding larger monthly returns, which has given a decided impetus to business.

The *Advocate* of the 18th has these items: The Independence, at Sierra Buttes, and the Keystone on the other side of the river, are running on rich rock. . . . The Primrose Mill is getting ready to start up in a few days. Their metal house is very full of very fine ore. . . . Gold Valley mill will start up in a few days, and is prepared to test the new Varney process on their sulphureted ores. They have several tons of rock in their metal house, of which a workingtest gives an average of \$30 per ton. Havens & Limpricht are commencing work at Gold Lake. . . . Speneer & Gray, at Gold Valley, will start their mill in a few days on rich rock. . . . The Gold Bluff is driving their level ahead rapidly. Montpelier company have their level in bard rock, but are progressing. . . . The Sailor company are taking out ore, and opening their vein preparatory to regular workings. . . . The Good Hope company have been testing their rock at the Moutpelier mill, and cleaned up a few days since. The ore tested were an average of the vein and yielded twenty dollars per ton. . . . In Ladies' Cañon, Anderson Co.'s claims are paying richer than ever before. We understand \$4,500 has been offered for an interest.

Editorial of same is highly jubilant over the prospects of Sierra.

Siskiyou County—

The Yreka *Union* of 25th Aug. says: In Humboldt, the claim of Messrs. McKimney & Miller, three miles above the Forks, has averaged about \$40 per day since the first of April. Messrs. Shepp & Jones intend erecting an arastra soon near the Forks for the purpose of prospecting quartz. Messrs. Lash & Co., are taking out some good rock. . . . Some new placer diggings have been recently discovered on South Fork, and it is believed that they are quite extensive. . . . The Scholes lead cleaned up, after a five day's run, last week, \$400, and it is supposed at least one-third of the gold was lost.

NEVADA.

Washoe—

The *Territorial Enterprise* of August 20th says: On Thursday afternoon some very rich streaks of ore were encountered in the Gould & Curry mine. It was found in sinking an incline from the second to the third levels of the mine in order to create a better circulation of air, and is about 500 feet southwest from the Bonner shaft, and over four hundred feet below the level of D street. We saw several sacks of the ore at the Bonner shaft house yesterday. It is very fine—more like sand than rock—and will probably yield between two and three hundred dollars to the ton. The extent of this ore is not yet known, but there are flattering indications of the existence of a good body of it below.

The Keystone mill has produced bullion of the value of \$20,000 during the last fourteen days. . . . The rich streak of ore found a few days ago in the Gould & Curry mine still continues to hold out. An assay of some of the average of this ore, made a day or two since, yielded \$485.44 to the pan.—*Alta*, Aug. 25.

Reese River—

From the *Reveille* we clip the following items: Edward Gilman shows us a specimen of ore from two ledges in Hot Creek district. The ledges are called the American Hunter and Silver Glance; and they are situated about half a mile south of the Indian Hunter and Old Dominion. The assays of the mineral show: first class, \$955.08 of silver per ton; second class, \$293.48; third class, from the surface, \$57.07. Some three tons of ore, from the El Dorado and Buel's location on the High Bridge, in the Philadelphia district, arrived in town on Saturday for reduction at one of our mills. . . . We were shown this morning an assay of mineral from the Orient ledge in the recently-discovered Reveille district, which shows as follows: silver, \$113.09; gold, 30.01; total, \$143.10 per ton. . . . In Smoky Valley district the tunnel of the Commercial Silver Mining company is seven feet high and six and a half feet wide, and its extreme length will be about 350 feet. Work is being prospected night and day. The Big Smoky company's claim upon the same ledge has been perforated by a tunnel 340 feet long, at which point they cut the vein, and they are now preparing to extract ore.

The principal ledges of Danville district are the Vanderbilt, Silveropolis, Maid of Erin, Moudnock, Green Monster, and Hibernia. Specimens of their ores have been assayed with the following result: Vanderbilt, first

class, \$1,702.82; second class, \$895.89; Silveropolis, \$387.50; Maid of Erin, \$486.97; Monarduck, \$207.15; Green Monster, \$103.67; Hibernia, first class, \$3,560.87; second class, \$1,197. The Vanderbilt is twelve feet wide.

Hot Creek district seems to be one of the most promising of all. The *Reveille's* "Notes of a Prospector," says: The Old Dominion ledge is from ten to fifteen feet in width. It contains a large quantity of horn silver—more than any vein that I ever saw. Take up almost any piece of rock from it, break it where you may, and you will detect its presence. Fifty thousand dollars have been offered for this claim, but the owners refused to sell. . . . The Gazelle is another very fine looking vein. A small opening has been made upon it, and a fine body of ore discovered, assaying upwards of one thousand dollars per ton. This ledge is situated about one mile and a half south of the Old Dominion. . . . The Silver Glance ledge is situated near the summit of a high mountain, between Old Dominion and Rattlesnake canons, and is a recent discovery. In breaking off pieces from the croppings on the surface, metallic silver could be seen, and rich sulphurets permeated the veinstone. . . . Near the Silver Glance lies a huge ledge called the American Hunter. Like the Gazelle, the ore is a rich black sulphuret, in which is to be seen a profuse sprinkling of metallic silver.

A letter from Mountain View Spring, Hot Creek, dated August 16th, says: "The more I see of this country, the stronger becomes my conviction that in a very short time it will excel any other known mining region for the abundance, size and richness of its silver-bearing ledges. Almost every day something new and rich, in the way of locations, are made. The district furnishes an abundance of wood and water."

The *Nye county News* of August 18th says: We learn that several tests of ore have been made by Jones' 3-stamp mill, in Mammoth district, with an average result of seventy dollars per ton. A lot of seven hundred pounds of ore from the Vigilante ledge was worked last week, and yielded at the rate of \$111.70 per ton. Letter to same from Mammoth district gives these items: The Mount Vernon company have a tunnel in 240 feet, and a shaft down eighty feet. Four hundred feet from the mouth of the tunnel, near the shaft, a vein has been tapped some eight or nine feet in width, showing ruby and sulphuret ore in abundance. . . . The Frankfurt and Alta are large and well cased ledges, showing chlorides and sulphurets in paying quantity at the surface. . . . The Vincennes and Rocky Mountain are large ledges, and contain rich rock. The letter says: "If Mammoth is not the No. 1 mining district in less than three years, many who have visited the district will be disappointed."

Correspondence of same paper says: Col. Bael's mill in Belmont, Silver Bend district, will be running in ten or fifteen days. . . . When we arrived at the High Bridge ledge, we were struck with wonder and surprise at its extent and apparent richness. The ledge is over twenty feet between casings, solid quartz, and all pay ore. I think \$200 per ton would be a low estimate on the entire ledge. . . . Same says in regard to Hot Creek: "There is no district in the State that can show as many large ledges and as much rich ore. I visited some twenty or thirty locations, and without a single exception they show good ore on the surface, and are large, ranging from twelve to fifty feet in width."

Same paper of 20th has the following: The Knickerbocker mill only shipped 1,204.73 ounces of bullion by stage on Thursday last. By the breakage of some of the pan gearing they were compelled to stop for a short time, but are all right now, and will soon be turning out as much bullion as ever.

Editorial of *Reveille* says: "If we had reason six months ago for asserting the superior richness and prepossessing advantages of our State, with what vastly increased confidence and assurance can we assert it now. Rich as our section was known to be then, the extent and grandeur of the discoveries of the past summer have far exceeded what was previously brought to light, and added many 'Reese Rivers' to the Reese River of the past. The success of the prospectors who have gone forth from this city during the past year has never been surpassed, even in the days of '49 in California, or in the occasionally rich gulches of Montana."

ESMERALDA—

The *Union* of August 25th speaks of several mines in California which pay well for working, although yielding only from six to ten dollars per ton, and adds: If the day soon comes when quartz can be worked at a profit in Aurora for fifteen dollars per ton, we need not despair of seeing good times again, for there are very many fair sized ledges in this district which will yield more than that amount. There is a large quartz vein in the Discovery tunnel, owned by the Philadelphia company (and there are dozens of others like it in all parts of the district), which would be worth an immense fortune if it was situated on the other side of the mountains, but it will not pay here

at present because the cost of reduction is too great.

Same paper of 18th says: "John D. Winters, of Gold Hill, has purchased the Junata claim, situated on Martinez Hill, and intends to put a large force of miners to work on it immediately. His mill is being repaired with all possible dispatch, and will be in readiness for crushing the ore by the time the miners get fairly to work."

A correspondent of the *Sacramento Union*, writing from Aurora, August 19th, says: Very many ledges have been located and relocated under the new State law. Eight men are working the Crockett and taking out good rock. The Utah, Durand, Locomotive, Olive Branch, and Jack Hays are being worked with favorable prospects. . . . The Golden Age and Empire company's shaft is down 300 feet. They have, on account of water, stopped until they get an engine. Prospect favorable. . . . The Empire mill, at Bodie, is crushing rich rock from the lower level of the mine. . . . The last crushing from the Homestake ledge yielded \$160 to the ton.

BUMBLDIT—

The *Register* of August 18th gives these items: Chas. Balbach has sold his interest in the Montezuma mine, 175 feet, to A. W. Nason, for \$7,500 in coin. Balbach will leave for the East in a few days. . . . In Buena Vista district work is going ahead in most of the old ledges. Manitowoc, Chameleon, North Star, Arizona, Seminole and others, driving ahead. Several other companies are organizing, and will commence soon to develop their ledges. . . . Work was resumed in the Rochester company's claim, on the Montana ledge, under direction of Superintendent Lark. Work will continue day and night till the ledge is struck. Double shaft down 136 feet. . . . Pioneer mill has been running this week on ore from the Manitowoc ledge. Average yield about \$100 per ton.

The ore now being crushed at the Sheba mill yields seventy-five to eighty dollars per ton. They work 2½ tons per day. Some 500 pounds of slag, worth about three dollars per pound, was shipped to Virginia, by Moyer's express, for melting there. . . . The mill is soon to be changed for wet crushing, and if custom work is supplied, will be run all winter. For the last two weeks they have been burning sage brush, for generating steam.

ARIZONA.

The *Miner* of June 27th, has the following: The Yuma mining company, is about to begin operations. The plan is to work the placers about Gila City (which attracted attention several years since) upon a large scale. . . . The Strawberry lode, on the Hassayampa, near the Chase mine, discovered by the Messrs. Boggs, and others, is the town talk. Assays of the ore have given a yield of \$2,600 to the ton in silver.

A letter from Mohave City give the following items: "The Moss mine and Hardy mine are getting along after the old fashion—no perceptible change. The mill of the former will be erected during the summer at Hardy's Landing. The Mohave Chief, in Sacramento district, is thriving beyond expectation. The Leland, in San Francisco district, is now turning out some very fine rock."

Same paper of July 11th, says: The Sterling mill is in active operation, and works to a charm. . . . The White mountains are likely to be well explored this season. Besides the Swilling party, the one from Santa Fe and that from San Francisco, one has just started from Prescott.

From same of July 25th, we clip these items: The sale of Territorial mining claims on the 20th was well attended, but there was not much interest except in the Sterling and Umpqua claims. The former was bought by Dr. Newhall for \$150, and the latter by W. N. Kelley, for \$175. Both have been jumped, but we hear that the parties in possession of the Umpqua have made a satisfactory settlement with Mr. Kelley. The Sterling claim will probably be litigated, and made a test of the validity of the Territorial law, which is questioned by some. . . . A. O. Noyes and Geo. Curtis have agreed to put a mill upon the Umpqua lode, and the former will start tomorrow to San Francisco to procure it. . . . Hon. Robert W. Groon has returned from Fort Yuma, having made arrangements with Captain Johnson for a 5-stamp mill, which will soon be here, and probably be put upon the Sterling lode. . . . Capt. Coffin will have charge of the Vickroy mill, parts of which are now at the Bully Bueno lode, and at Woolsey's ranch. The mill will, we are glad to say, soon be put in operation, but probably upon some other lode than the Bully Bueno, which is said to have turned to silver.

Letter to same from William's Fork, June 20th, says: Coffin & Co., from New York, have commenced operations on the ledge near Mineral Hill called the Adelphi, and although they have been at work but a short time, they have succeeded in taking out considerable ore of a very good quality, and are confident they have a good mine. They are shipping their

metal to San Francisco to have it tested. . . . Messrs. Ripley & Crane, also of New York, have arrived, and purchased two extensions on the Eliza and one on the Ashley, and are making the necessary preparations for operating on the same. . . . Martin & Co are now receiving machinery from California for the purpose of placing reduction works upon the Mineral Hill mines, and have contracted for the burning of 26,000 bushels of charcoal. Mr. Thompson has not got his smelting works in operation, owing to some part of his machinery being left behind on the river. It is the intention of the Phant company to push the work ahead as vigorously as possible. The ore taken from this mine yields about 47 per cent. There has also been taken from the mine thirty-seven tons of wash ore, which yielded 61 per cent, and sold for \$240 per ton in San Francisco.

Colorado papers say that a large exploration party is to start from Santa Fe, about the end of the month, to prospect the Gila River country.

The *Alta's* Prescott correspondent, to date of July 23d, gives these items: The Woolsey Water mill, on the Agua Frio, twenty-five miles east from here, is running five stamps. The ore is from the Central and Ticonderoga lodes, distant some five miles from the mill, and thus far it has returned from \$50 to \$100 per ton. The lodes are very large, and there would seem to be no end to the ore. The Sterling mill, five stamps, upon the Sterling lode, five miles south of Prescott, has been running for two weeks past, and is said to work finely. The ore has thus far paid from thirty to fifty dollars per ton. The lodes on Lynx Creek, ten miles east from here, and one of the richest districts, all show sulphurets, and most of them at a depth of fifty feet indicate a change to silver. The Eureka, one of the most noted mines, shows a greyish black rock at sixty feet. Mr. Cummings, one of the proprietors, will go to San Francisco in a few days with some hundreds of pounds, in order to secure a thorough test, and learn the exact process requisite to its successful working.

Mr. Lamson's two Thunderbolt mills are here. One will be in operation on Lynx Creek early in August, and, if necessary, arrangements will be made for working silver as well as gold quartz. At forty feet the shaft on the Florence lode, near the mill, and the ore from which Mr. Lamson proposed to work, shows silver rock—a six-foot vein—some of it fit to compare with that of Washoe.

The Borger mill, in which Wormser & Co. are interested, is rapidly approaching completion, and ores from the Big Bug and Galena lodes, in the Big Bug district, are ready for it.

IDAHO.

A gentleman lately returned from Owyhee, says the *Flag* of August 28th, says the New York and Owyhee mill is running on Poorman rock; the Grenzabach on the same; Moore & Fugus on Oro Fino; Wass, on custom rock; Lincoln on Oro Fino; Cosmos on Silver Legion; Minear on Oro Fino, and the Ainsworth on Surplus Oro Fino. The Webfoot and Schonbar is not running. The others all run day and night. . . . The Lincoln mill of twenty stamps, crushed one hundred tons of Empire rock in a single day. . . . Moore & Fugus have a mill on the way to Flint district. . . . Richards and McAlpin have purchased the South Extension of the Morning Star. . . . The Trook & Jennings has been bonded to the same parties for \$130,000, and work on it is progressing. . . . Everything is lively in the Owyhee country.

MONTANA.

From the *Post* of August 11th we clip these items: We learn from a gentleman just in from Wigwam Gulch, that there are eight men at work on the bed rock drain ditch in that gulch, and from the prospects found so far, they will, when the ground is opened properly, have a "big thing." The dirt prospects lately from the top. . . . The quartz mill formerly owned by the Seneca Falls Mining company has been purchased by Mr. J. P. Isaacs, agent for a heavy firm in New York. The mill has fifteen stamps, with capacity for forty. The institution is located in the vicinity of Kearsarge Gold and Silver bearing quartz lode in Summit district. . . . In Bannack both coal and fine clay have been discovered. . . . Messrs. Bledsoe & Comstock have recently discovered what they think to be a tin lode a short distance from this place, in the direction of the Stinking water. The rock which they obtained from a shaft on the vein is found to contain no mineral but tin. . . . Captain Malthy has discovered a lode in Hot Spring District, which is pronounced by old Cornish miners to have every indication of being a first-class tin lode. . . . During the week fifteen quartz lodes have been recorded in the county Recorder's books. Four of these lodes are located in the Silver Star District, and the remaining eleven in Summit, Nevada, and Junction districts. The discoveries in Summit are said to be very good.

COLORADO.

The *Journal* of August 7th, has these items: Every day witnesses the return of some of the Bear River prospectors. . . . Mr. Cyrus Hurd has just returned from Red Mountain, and be

says "if there is any gold in the ore it is the biggest thing in the world." The Broadway company ran 100 pounds through a Bertola Pan in the fall of 1864, getting \$4.77 or at the rate of \$95.40 a ton. Seven hundred pounds was brought over the other day by a Denver company to be tested. . . . Col. Baxter has a little barrel amalgamator for silver ores at the Dodge mill in Eureka. The other day he put through forty-six pounds of Argentine ores, and retorted twelve ounces of pure silver, at the rate of 500 ounces of silver, or \$675, coin value, per ton.

Same paper of 14th, says: We learned yesterday that the Bobtail company, the Sterling, Black Hawk, and Brastow companies, and Mr. Field, and Mr. Sencsunderer, all owning together about 767 feet on the Bobtail lode, had at last concluded to go on and put in the 6-inch pump for the use of the entire lode, purchased for that purpose some time ago by the Black Hawk company. . . . We took a look through the Manhattan mill in this place, yesterday. There has been a complete alteration since we were last in it. The stamp batteries and Dodge pans have been taken out and thrown aside, and the C. & T. desulphurizer reposes in neglect. A handsome Keith furnace has been built, stack and all, a large Ingersoll Crusher, which takes the ore wet or dry equally well, set up, new lines of shuffling put in place, and twelve shaking tables made. A complete Keith "outfit" has been nearly perfected. The Colonel expects to be able to start by the 1st of September and to run two cords a day.

The Susquehanna Company are taking out fine looking ore on the German. . . . Jno. Shumer is opening a new lode called "The Hammond," in Spring Gulch. At 20 feet from the surface he has 12 inches of pure ore, worth \$450 a cord by Keith process. DuBoise is going to start his new Keith mill on it. . . . A new lode just below the Fiske is being opened. The shaft has reached a depth of seventy feet, and the crevice of gossan, prospecting very largely, is from three to four feet in width. . . . Mr. Pritchard is opening a lode on the point of Quartz Hill, running down into Spring Gulch, called "The Whalin." He has acquired 2,200 feet of the vein, and has a three to four foot crevice of forty feet from the surface. . . . Mr. Hale is driving an adit to intersect a shaft on the "Elua," eighty feet from the surface. He has, both in the shaft and adit, from three to four feet of ore, iron and copper pyrites and galena.

The *Register* says that the Niwot Company, running twenty-five stamps in Ward District on Columbia ore, are taking out \$280 a day. Mr. Maynard has leased Col. Ford's furnace, head of Russell, for the purpose of smelting the Sierra Madre Company's ores.

From the *Denver News* of Aug. 15th, we clip the following:—A new district, called the Central, promises to be very rich. Most of the lodes yet discovered are situated on James Creek, a small tributary of St. Vrain, and about twelve miles above William's Saw Mill. . . . An assay was made in Black Hawk from a specimen of argenteriferous galena from the Buckhorn lode, which gave a return of seventy-five dollars to the ton in silver, and twenty-five dollars in gold.

Prof. Hermann, of Vivian & Co.'s Smelting Works, Swansea, writes from Central City to Jas. F. Lyon, New York, as follows:—Yesterday I visited, with Mr. Hayes and my friend, Professor Hill, the Consolidated Gregory Mine, and can but join in the judgment generally expressed throughout the Territory on all sides, that this is the very best managed, and no doubt one of the richest mines. The working resembles in every way so closely the European plan of mining, that I could almost have fancied myself down in one of the very best Cornish shafts, with the difference that the value of their produce does not bear to be mentioned side-by-side with that of your ores, which carry such considerable percentages of the three most valuable metals known. From the several interviews which I had with you in New York, you are without doubt impressed with the fact that I look upon smelting operations as the only practicable solution of all the difficulties met with out here.

A letter to the *Denver News* from Silveropolis, dated Aug. 7, says:—Prospecting and development still goes on in this region. Joe Boyd is sinking on the Elephant and Emperor, and taking out rich looking sulphurets.

John Reno is running a cut on the bank, preparatory to sinking on the Anglo Norman. Reno and Boyd have made several valuable discoveries this spring.

Messrs. Haak & Cresson have made some good discoveries. Jack Lynch is putting up his furnace as fast as men and money can do it. The silver mines of Summit county will be the saving clause for Colorado.

Another dated August 14th, says:—Mr. A. A. Sawyer, the agent of Whitney & Whiting, is at work on the "Ten Mile" with a gang of thirty hands. He informs me that the ore from all the lodes, about sixty, they are working, looks better the deeper they go.

Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. O. P. Truendell will act as our Corresponding Agent and Solicitor in the interior of this State, from this date. August 25, 1866.

Mr. E. F. Dewey is duly authorized to receive subscriptions and advertising, and transact business for this office. August 18, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. San Francisco, Jan 11th, 1866.

Mr. I. N. Hudson, is authorized to solicit subscriptions, advertising, etc., for the MINING AND SCIENTIFIC PRESS, in San Francisco, and to receipt for the same.

San Francisco:

Saturday Morning, Sep. 1, 1866.

THE STATE AGRICULTURAL FAIR will open in Sacramento one week from next Monday. Would it not be well for those of our citizens who propose to exhibit at the Paris Exhibition, to present their articles previously at the State Fair. It will cost nothing to send them, as all freight to the State Fair goes free on the Navigation Company's steamers. Would not such a course pay in the general interest it would excite in stirring up a greater number of exhibitors at Paris? We think it would, and should be happy to announce in our next issue that a general movement has been inaugurated in this direction. Have our mechanics and others completed their arrangements to be represented at Sacramento? We should be extremely sorry to be called upon to report that the mechanical and other products of this city did not occupy the proportion of space and attention which their importance and merits demand. If such should be the case, it will not be the fault of the management of the Society; for the most ample arrangements have been made and free transport secured for the benefit of exhibitors. It is not even yet too late to make arrangements to exhibit at Sacramento.

AGRICULTURAL AND MINING ART COLLEGE. Several counties in the central portion of the State are making efforts to secure for their respective localities the location of the Mining Art College, an institution which must soon become a reality. The Commissioners, upon whom will devolve the location of the College, invite proposals from the several counties, as to how much they will do, pecuniarily, toward its establishment. Both the amount which may be raised and the natural advantages which the various competing localities can present, will be taken into account in making the decision. Sacramento and other towns and cities, are taking active steps in the matter. Has San Francisco no aspirations in that direction? Would it not be well for some of our enterprising and moneyed men to think of the matter? Fifty thousand dollars ought to be easily raised in this city for securing the location of the principal college building here, with a model farm near Oakland. The advantages of such a location, when taken into account the importance which this city must always afford over any other place in the State for scientific advantages and appliances, must be apparent to every intelligent person.

A NEW PAPER MILL, for the manufacture of wrapping and other coarse papers, will be immediately erected near the old Blackburn sawmill, on Branciforte creek, about three miles northeasterly from Vera Cruz. The enterprise is set on foot by San Francisco capitalists. Thus gradually is capital seeking for some investment, a process which will continue, until our already large and growing home market is supplied with everything which can be produced on the Pacific coast.

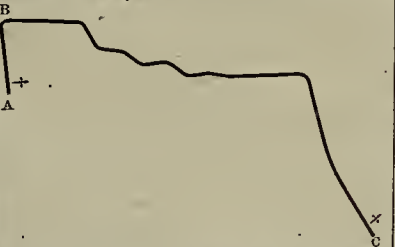
THE USE OF THE SYPHON IN MINES.

We are not aware that the syphon has ever been satisfactorily introduced for relieving mines from water. We have heard of several attempts having been made; but so far as our recollection goes, the experiments have proved failures, for what reasons, however, we have never learned until in the case instanced below. That they might be thus made serviceable may be reasonably inferred from the fact that they have been successfully employed in some parts of Europe for removing the water of dry docks. The following was addressed to us as a private letter; but it is of so much general importance and interest to miners, that we have taken the liberty to publish it in full, hoping that it may bring out some valuable experience or suggestions from others, in addition to such comments as we may make. The letter is dated "You Bet, Nevada County, August 22, 1866."

EDITORS MINING AND SCIENTIFIC PRESS:—I take the liberty of writing to you, with the hope that you can give me some information in regard to the theory and practical working of syphons, as I am not very well posted in regard to how a syphon can be put in working order. Knowing you to be informed in such matters, I apply to you for the necessary information.

A syphon was recently put into the claims of Messrs Neece & West, of this place. It consists of a lead pipe two inches in diameter, 500 feet in length, soldered together in five sections, of 100 feet each. The joints are substantially made and perfectly air-tight, and with a stop-cock at each end to gauge the water. There is also a funnel and stock-cock soldered to the spring of the arch, for the purpose of filling it with water. The tube of this funnel is one-half inch in diameter, and two inches long. In laying the pipe, we did not take much pains to have it straight. The arm that leads to the well or pool of water in the mine, is bent short, say in a seven-inch circle. The tunnel sets rather toward the discharge arm. From the arch, the first hundred feet has a fall of about one quarter of an inch to the foot; the next hundred feet has all of six inches to the foot. At this point the pipe strikes the bed-rock and continues to rise and fall for the next hundred feet. These flexures rise and fall at about an average of one foot to every twenty. I have thought that perhaps it might be those flexures which prevent the syphon from working. The last section, which is nearly straight, has a good fall for one hundred feet. At twenty feet from the discharge it turns down rather abruptly into a shaft.

I append the following rough diagram, which may possibly aid you in forming a more distinct idea of the arrangement. In the diagram, A represents the bottom of the well, or "sump," which collects the water of the mine, and from which it has heretofore been pumped; B represents the funnel, with stop-cock fixed upon the spring of the arch; C represents the discharge. The different grades of fall and flexures, or the rise and fall, will be readily apparent to the eye.



To filling the syphon we had some trouble; could not fill it by pumping water into the funnel of the arch, as the pressure of air seemed to interfere with that mode of filling. We had to construct a temporary suction pump, and attach it to the discharge end. In that way we got the syphon started, and it ran very well for seven hours, then gradually stopped. [Our correspondent does not inform us how often this was repeated.] The bottom of the discharge arm is sixteen feet lower than the level of the well in the mine. I send you a drawing of the syphon in this letter, and would like to have you give such information as will correct the errors which we have made. By so doing, you will confer a great favor on the writer, and probably many others who may have attempted or would like to introduce a syphon into their mines. Please allow me to ask the following questions:

1st. In laying down a syphon, is it necessary to have a gradual incline from the curve of the arch to the discharge arm?

2d. Do those flexures or sags interrupt its perfect working?

3d. Does the water, running slowly through the pipe, leave air behind it?

4th. Does water accumulate in those sags?
5th. Is the pressure of the atmosphere different in the tunnel, from what it is in the open air?

6th. What grade is necessary to make a syphon of that capacity work proper?

7th. What is the best means to start it when it stops discharging?

8th. How long ought a syphon to run without stopping, under such circumstances?

Yours truly, J. G.

The principle of the syphon is too well understood to need any explanation. We will assume that in the present case it has been made perfectly air-tight, as stated. Our correspondent supposes that the turns and flexures of the tube may interfere with its action. They will do so in a degree, only in proportion as they cause an increased friction of the water. With regard to the admission of air, they will make no difference if the gauge cocks are properly set to regulate the flow. We will answer the queries by numbers as given.

First.—Already substantially answered; any variation from a direct line will only retard the motion of the water by increasing its friction.

Second.—Only as above described.

Third.—The water will leave no more air when running slowly than when running fast, so long as the stop-cocks are properly adjusted. If the discharge is larger than the orifice in the well, air-bubbles would be likely to enter and work up to the flexures, and there accumulate until the water would be cut off.

Fourth.—It may, as already explained.

Fifth.—The difference is very slight, and due only to the difference of elevation at the points of observation.

Sixth.—The grade should be made as uniform as possible, and the distance to the discharge as short as possible.

Seventh.—You have adopted the very best means attainable, and the only practicable one.

Eighth.—If no air is admitted into the tube, and the entrance orifice is continually submerged, its discharge should be constant.

Air may find its way into your syphon in various ways, even supposing it to be perfectly air-tight throughout its length. Water always contains more or less air, and sometimes other gases, mechanically mixed with its particles. This air or gas may become gradually freed from the water in its passage through the tube—and undoubtedly will. When freed, it will naturally collect at the highest point or crown of the arch; and when that is full it must cut off the water. It would doubtless be well to let the crown of the arch come a short distance beyond the top of the well, and let it represent a much larger circle than you describe—say one with a radius of three or four feet; it will give a much larger air space, and consequently allow the syphon to run much longer without stopping.

Water, in falling, always carries with it a quantity of air. Some of this air immediately escapes, as will be seen by the bubbles which constantly arise from the foot of the falling column. It does not all thus escape, as a certain quantity is evidently entangled among the globules of water, and remains so held for a long time. Water, entirely freed from air, is not pleasant to drink. Those who have visited the water reservoir on the hill near the Protestant Orphan Asylum, in this city, must have noticed that it is so arranged that the water is delivered into one end of the reservoir, and drops over a considerable fall in passing to the other end from which it enters the supply pipes. This fall is for the purpose of aerating it. Much of this air will gradually escape, as the water is allowed to move onward. It is possible that the water from your mine so falls into the well as to allow the "bubbles" of air that would immediately escape to find their way into the suction of your syphon. If so, they would very likely be liberated immediately on reaching the crown of the arch at the top of the well. The water should therefore be dropped into the well as carefully as possible. The pipe should also be constantly submerged, at least twenty inches or more, and the discharge orifice so regulated by its gauge-cock as to be at all times smaller than the entrance

orifice and incapable of discharging any more water than the regular flow into the well. Possibly your gauge-cock in the funnel at the crown of the arch may leak. Keep the bowl of your funnel full of water as a preventive. Perhaps, by carefully guarding against all contingencies, you may make your syphon run longer than it did at the start. If it will run only eight or ten hours, and you have then to start it again, it will be much cheaper than pumping by hand labor—especially if you have a properly constructed suction pump conveniently arranged for ready action.

We should be pleased to hear further from our correspondent with regard to the working of the syphon. We shall also esteem it a favor if any person having any experience or knowledge in relation to the use of the syphon, for mining purposes, would communicate the facts to this office for publication.

A CALIFORNIA SILK FACTORY—AN INTERESTING LETTER.

We have been a long time talking about the initiation of the silk manufacture in California, and that it has not been altogether talk, we have now the tangible evidence of material progress in the matter by the recent return from the East of Mr. Joseph Newmann, who, in connection with Mr. Meyers, has made every arrangement for the early establishment of a manufactory of silk goods, to be located in this city, in the iron building at the corner of Jackson and Battery streets. The gentlemen who have undertaken this enterprise are practical silk manufacturers, having had large experience in the business in Europe.

Mr. Newmann, during his absence, has thoroughly posted himself as to all the most recent improvements in the business, and brings with him twenty looms, with all the other machinery necessary for carrying on the manufacture. He has also brought out a small supply of the raw material, and a number of experienced operatives, in order that there might be no delay in commencing operations.

The company will be known as the "Pioneer Silk Manufacturing Company," and they will have two pieces of black dress silk completed in season for exhibition at the State Agricultural Fair at Sacramento, in September. At present there is not a sufficiency of raw silk produced in this State to supply the factory, and the company will have to depend in a great measure for importations from Japan and China. The establishment of this enterprise, however, by furnishing a ready home market for the purchase of cocoons, as fast as they can be produced here, will so stimulate the production of the raw material that we may with reason hope for a rapid and profitable increase of this new branch of domestic industry in our midst.

LETTER FROM MR. PROVOST.

In reference to the above enterprise, we have been favored with the following interesting letter from Mr. L. Provost, of San Jose, the well-known pioneer silk culturist of this State. The letter will be read with pleasure by all who take an interest in the development of important industrial pursuits on the Pacific coast:

SAN JOSE, August 22, 1866.

EDITORS MINING AND SCIENTIFIC PRESS: Knowing that your valuable paper is devoted to the best interests of the State, I have thought that it might give you pleasure to announce to your numerous readers that we have now fully inaugurated the "Pioneer Silk Factory" on this coast. This is a great event in view of the vast importance of silk culture to California. In my previous letters to the PRESS I have said that we were about to establish this manufacture, and it now affords me the greatest pleasure to state that I have received a visit from my friend, Mr. Joseph Newmann, who has just returned from the States, where he has purchased a complete assortment of all the necessary machinery to take the silk from the cocoons up to manufacturing it in all shapes and styles; in fact, he has brought out everything for a complete silk manufacturing establishment, and at a cost of many thousand dollars, so that he will soon be enabled to manufacture whatever will be most in demand in this market in the silk line.

Mr. Newmann tells me that in visiting the most important silk factories in the States he

has learned that they have in their direct employment about three thousand hands. I am in hope, as we are in the very best silk country in the world, that we shall very soon need that number in this employment in our own State, and I fully believe that the time is not far distant when we will need many more.

I know of a great number of persons who are preparing to enter in good earnest into this rich branch of trade the coming season, and among them are a goodly number that are already familiar with silk culture in their fatherlands. Many more are preparing to come. These are the elements we want to establish the culture, and spread it all over the State. The fact of having our own manufacturing, and, consequently, a market at home for all the cocoons we can produce, will be an increased inducement for many more to go into it. Those who go into the business early will make a good thing of it under present circumstances, especially as they will have a chance to take some of the fine premiums offered by the State.

ADVICE AS TO THE CHARACTER OF SOIL FOR THE MULBERRY CULTURE.

As my ambition is to see all succeed, I feel it my duty to do all I possibly can to impress on the minds of those who intend to go into the business, that to insure a complete success and the largest profits, the most important point is the selection of the soil in which to plant the mulberry trees, which are the foundation of the business, because we cannot hope to raise good silk without plenty of good food. It is true that the mulberry tree will thrive more or less almost anywhere in California; but to obtain a fine luxurious growth, a deep, rich, light, loamy soil is needed. We have any amount of such soil in all the valleys of California. I have observed a great quantity of it in our beautiful San Jose valley, and most of the Sacramento valley is composed of that soil. By what I have seen, and by what I am learning, through correspondence from every part of the State, we have hundreds of thousands of acres of it, so that we have room enough for thousands and even millions of people to engage in the business.

In good mulberry soil trees of seven years' old measure from two to three feet in circumference, and shoot of one year from ten to twelve feet long. What country can beat this? It is very easy to see that in such soils we can obtain as much food from one acre as we could from three or four acres of poorer soils—hence, a great economy of work, and consequently a greater proportionate profit. We have such a quantity of this soil all over the State that all who wish to embark in the business can advantageously come hither from all parts of the world. We have room, and the best kind of land for them all. It is truly incalculable the quantity of silk that can be raised in California. We can supply the whole world with that article!

Mulberry trees ought to be planted on every farm, as the work of raising the silk can be done by the women and children, and all other persons not fit for hard work; and, furthermore, as it is a culture in which we do not fear any competition, we have the whole world for a market. Then it is our interest to engage in it, every one for himself, and also for each to help his neighbor to go into it. We must all go to work, so as to be able, as soon as possible, to retain at home the seven millions of dollars that are annually sent out of the State for the importation of silk, and, furthermore, do all we possibly can to cause the millions already gone out to come back with compound interest. Our ladies should make it a national pride to be able to raise and manufacture their own silk. Respectfully yours,

L. PREVOST.

Mr. Prevost, in a letter to the *Alta*, says: "From all that I can glean, I am of the opinion that from cuttings and seeds over two millions of mulberry trees will be planted the coming season in California."

EXPLORING EXPEDITION.—Gen. McDowell and several other gentlemen, accompanied by Professor Blake, as mineralogist and geologist, left this city yesterday morning on a tour of exploration to the White mountains, in the south-eastern portion of this State. This region is reported to be rich in mineral wealth, and we presume the present expedition will develop some important facts with regard to its resources and value. A company of U. S. soldiers accompanies this expedition. We have been promised some notes of travel by the professor, which will doubtless prove of much interest to our readers.

A GERMAN firm of locomotive builders, who recently completed their thousandth engine, gave a dinner and a dollar to every workman to celebrate the event.

LIST OF OFFICERS OF CORPORATIONS AND MINING COMPANIES.

(PUBLISHED IN THE FIRST ISSUE OF EACH MONTH.)

(Below we give the date of recent meetings held in this city, and the names of officers chosen or appointed. Every mining company is invited to send us the result of their election, to be thus put on record, gratuitously, with any other facts of general interest.)

ETHAN ALLEN G. & S. M. Co.—August 6th. Trustees: Mark L. McDonald, I. N. Greene, James Roberts, Thomas B. Bishop, and J. M. Reynolds. President, Mark L. McDonald; Secretary, H. B. Congdon.

MISA RICA DE LAS FLORES Co.—August 22d. Trustees: Mullot mine, J. Merle, B. Pasquale, L. Blanchard, L. Ponjaddon, A. Dunnington, and A. Enquirts. President, Mullot mine; Secretary, S. Dickinson; Treasurer, A. Borel; Superintendent, A. Bouglival.

SERRA VALLEY G. & S. M. Co.—August 27th. Plumas county, California. Trustees: C. B. Land, Lucius A. Booth, Earl Barlett, A. Dolet, and A. Noel. President, C. B. Land; Secretary and Treasurer, A. Noel; Superintendent, S. R. Palmer.

SWEET VENGEANCE G. & S. M. Co.—August 26th. Trustees: R. H. Elam, Jabez Howes, E. K. Howes, J. R. Spring, F. S. Spring, H. Bendel, A. Pavillier, P. G. Galpin, and J. F. Lohse. President, R. H. Elam; Vice President, J. Howes; Secretary and Treasurer, F. S. Spring.

RECENT INCORPORATIONS.

ALTURAS M. Co.—Idaho Territory. Capital stock, \$40,000; 400 shares. Trustees: John McAdams, Robt. McMillan and Cortland Wood. August 8.

WILEY SPRINGS OIL COMPANY.—Capital stock, \$70,000; time of its existence, 50 years from the filing hereof. 1,400 shares of \$50 each. Trustees: Robt. J. Van Dewater, Lewis Cunningham, A. C. Nichols, R. A. Swain, and Benj. E. Babcock. Principal place of business, San Francisco; place of mining and active business, in the county of Los Angeles. August 8.

NORTHWEST HOMESTEAD ASSOCIATION.—San Francisco. Capital stock, \$25,500; 60 shares; \$425 per share. Trustees: John H. Wentworth, Rev. O. C. Wheeler, D. O. McCarthy, James A. Eaton, and B. F. Moulton. August 4.

NORTH BLOOMFIELD GRAVEL M. Co.—Kumbing Creek, Nevada county. Capital stock, \$400,000; 80 shares; \$5,000 per share. Trustees: L. L. Robinson, B. Pralus and Samuel F. Butterworth. August 7.

ADRIAN GOLD M. Co.—Rock Creek, Sierra county. Capital stock, \$125,000; 2,500 shares; \$50 per share. Trustees: Anson Averell, E. F. Baldwin and Wm. Ireland. July 23.

CALIFORNIA QUICKSILVER M. Co.—Butte, Yolo county. Capital stock, \$870,000; 8,700 shares; \$100 per share. Trustees: Charles F. Reed, Charles W. Reed and Henry F. Williams. August 9.

GOLD QUARTZ COMPANY.—Placer county. Capital stock, \$600,000. Trustees: Archibald C. Peachy, Oden Hoffman, George D. Roberts, Melville Atwood, and Edmund Werthman. August 15.

MOUNT TENABO SILVER M. Co.—Cortez Mining District, Lander county, Nevada. Capital stock, \$782,000; 7,820 shares; \$100 per share. Trustees: Lucius A. Booth, James Mairs, Joseph Sedgely, Thomas Hardy, and J. Preston Moore. August 16.

COSMOPOLITAN HOMESTEAD ASSOCIATION.—San Francisco. Capital stock, \$12,000; 40 shares; \$300 per share; time of existence, three years. Trustees for first three months: T. S. Russell, O. E. Johnson, J. M. Allen, J. N. Hudson, J. L. Jones, Wm. Wistar, Wm. Freeborn, David N. Coy, T. H. Porter, Henry Mohan, and Wm. Hollis. August 20.

SAN FRANCISCO ETHNO-HISTORICAL SOCIETY. City of San Francisco. Trustees: John W. Bwinelle, John T. Doyle, H. H. Haight, Jos. W. Winans, and Louis R. Lull. August 23.

ANCIENT RIVER CHANNEL BLUK GRAVEL CO. Location of claim, county of Nevada, State of California; place of business, county of San Francisco. Capital stock, \$500,000; 5,000 shares; \$100 per share. Trustees: B. F. Moulton, S. Card, Geo. Treat, J. H. Blood, and H. McCormick. August 25.

VEINS OF COAL have been traced to the southern part of Missouri, from the mouth of the river Des Moines through twelve counties into the adjoining Indian territory; from Glasgow, up the Missouri river, to the border of Iowa; and from St. Joseph to Shelby, showing the existence of a coal area of more than 26,000 square miles in the northern and western part of the State.

TO INVENTORS

ON THE

Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

Self-Evident Facts.

Having had large experience, and gratifying success with the great variety of cases emanating on this coast, we feel confident of our abilities to assist inventors in patenting their inventions, saving them from vexatious delays, and from receiving worthless papers by reason of imperfect preparation of their claims before being sent to the Patent Office.

The branch of Patent Law is of itself a SPECIALTY of legal jurisprudence; or, as Mr. Phillips, an eminent Patent lawyer, justly remarked: "The metaphysics of the law."

In early days but little preparation was needed, or but ordinary skill required to obtain a patent; but now, by reason of the multiplicity of inventions, and the numerous acts of Congress, found necessary to protect the inventor while the patent lasts, and to do justice to the people after it expires, the utmost care and skill are requisite in managing cases and obtaining a patent that will be of real value to the Patentee, and stand the test of passing through the legal ordeal of an infringement suit.

The general practice of the Patent office regarding the examination or issue of Letters Patent for inventions has not been materially changed for many years, yet there have been amendments added to the laws of 1861, 1863 and 1866, and which it is necessary for all parties managing an application to be conversant with. Old inventors invariably advise the employment of none but agents of responsibility and experience. As agents with such qualifications, we solicit your patronage.

Confidential Advice.

Those who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to see them in person at our office, or to advise them by mail, or through the MINING AND SCIENTIFIC PRESS. In all cases they may expect from us an honest opinion. For these consultations, opinion and advice we make no charge. A pen-and-ink sketch and description of the invention should be sent together with a stamp for return postage. Write plain, do not use pencil or pale ink; be brief.

Remember all business committed to our care, and all consultations, are kept by us secret and strictly confidential. Our permanent business interests demand, as it were, a sacred compliance with our obligations as solicitors, and in reference to our strict fidelity in this respect we refer to one and all of the hundreds of inventors and patentees on this coast who have patronized us.

Letters Patent.

A patent is an open letter, embodying all the language of an inventor or his agent, contained in the specification, without alteration, and is granted to citizens of the United States, or those who have declared their intention of becoming such, and is signed by the Secretary of the Interior and the Commissioner of Patents, with the seal of the Patent Office affixed. Its jurisdiction is for the whole United States, for the term of seventeen years.

A patent right is personal property, and is assignable, but cannot be seized and sold on execution.

What Claims can be Patented?

A knowledge of Ancient and Modern Mechanisms and familiarity with American and Foreign patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service—and yet it can never be positively determined except by presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings and payment of the first government fees.

Steps Necessary to Procure a Patent.

The first thing required is a model, if your invention can be represented by one. It is not only immediately necessary in preparing the papers, but the law demands that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions. A less size model will answer when more convenient. It should be neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention. As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., Mining and Scientific Press, San Francisco. Prepay expenses and send express receipt to us by mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with the model, the inventor should send us the first installment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance, stating the name and address of the sender. On the receipt of the model and Government first fee of \$15 in currency, the case is duly registered on our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued the Government last fee of \$20 in currency will be required. The law states that every patent shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to the applicant or his agent. And if the final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless it is one of great complication, as the business can be well done by correspondence.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when the case is conducted at our agency, is three months. We frequently get them through in less time; but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

[To be Continued.]

NEW PATENTS AND INVENTIONS.

TRANSMITTING MOTION.—John Brizee, Alvarado, Cal.: This is a device for transmitting motion or power from a spring to machinery to be operated, and is more especially designed for operating portable or light machines, such, for instance, as washing machines, churns, sewing machines, etc. The object of the invention is to obtain a compact, simple, and efficient device for the purpose specified, one which will not be liable to get out of repair or become deranged by use.

PREPARING CHARCOAL.—G. W. Ferris, Quincy, Ill.: The object of this invention is to remove from charcoal all foreign matter, and prepare the same so as to be particularly fit for clarifying spirituous liquors and also for filtering purposes in general.

STARTING HORSE-RAILROAD CARS.—R. F. Wells, Roxbury, Mass.: This invention relates to means for facilitating the starting of horse cars. It has for its object the obtaining of a simple arrangement of parts to effect the result, and one which will be compact and not liable to interfere or come in contact with obstructions on the road.

STRANGERS visiting San Francisco can use the Burglar-Proof Vault of the CALIFORNIA BUILDING, LOAN AND SAVINGS BANK, California street (one door from Sansome street), for the temporary deposit of Gold Dust, Coin, Bonds, etc., at a small monthly rent, according to the value of the property deposited, for which the Company will be accountable.

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Its correspondents are men of science and learning, and hail from all parts of the coast. It is published at San Francisco, at \$5 per annum, or \$3 for six months. Address Dewey & Co., publishers of MINING PRESS, San Francisco. [Nye County News.]

A MOTHER'S LOVE.—What sweet poetry is contained in those three little words. Is there a sentence to be found in any language that is more replete with sentiment, beauty, grace, or finish? A mother's love! How noble! How self-sacrificing! How unceasing are her efforts in guiding aright the footsteps of her children! What privations will she not endure; what perils will she not encounter for the sake of her "loved ones!" From our earliest infancy 'tis our mother who watches over us with untiring devotion; who notes every change in our looks, both in sickness and in health. How our hearts bound beneath the loving glances of her soul-lit eyes, as she bends them upon us beaming with a light so pure and holy! With what delight does she listen to our childish prattling, and observe each winning grace! How fondly she gazes upon us, and what a glorious future she paints for us! Then, as thought comes, that as we advance in years, she may be taken from us, and we be left to the cold charities of this world, her heart felt prayer ascends to the Throne of Grace, beseeching Him to guide and direct our steps, so that we may be prepared to meet her in a brighter and better world. Sorrows may come upon us, friends may forsake us, and the world present not one cheering ray, yet will our mother cling to us with a love so abiding that her cheering tones and loving words make us forget the world's rude and bitter jests. Never, on the earth, can we find a friend so steadfast, and one in whom we can repose such perfect confidence as our mother. How holy is a mother's love.

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies
Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10q-1f

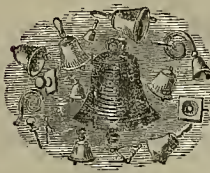
Notice to Miners,
Well-Borers and Water Companies,
M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, or the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done. **M. PRAG,** 8v13 ly Stove Store, No. 125 Clay street, below Davis.

T. G. DURNING. J. F. FISHER.

PACIFIC FILE FACTORY,
No. 53 Beale Street,
Between Market and Mission streets, San Francisco.

FILES RECTUT AND WARRANTED AS GOOD AS NEW,
or no charge. The only establishment in the State. We also manufacture Reamer and Nower Sections. 8v13-ly **DURNING & FISHER, Prop'rs.**

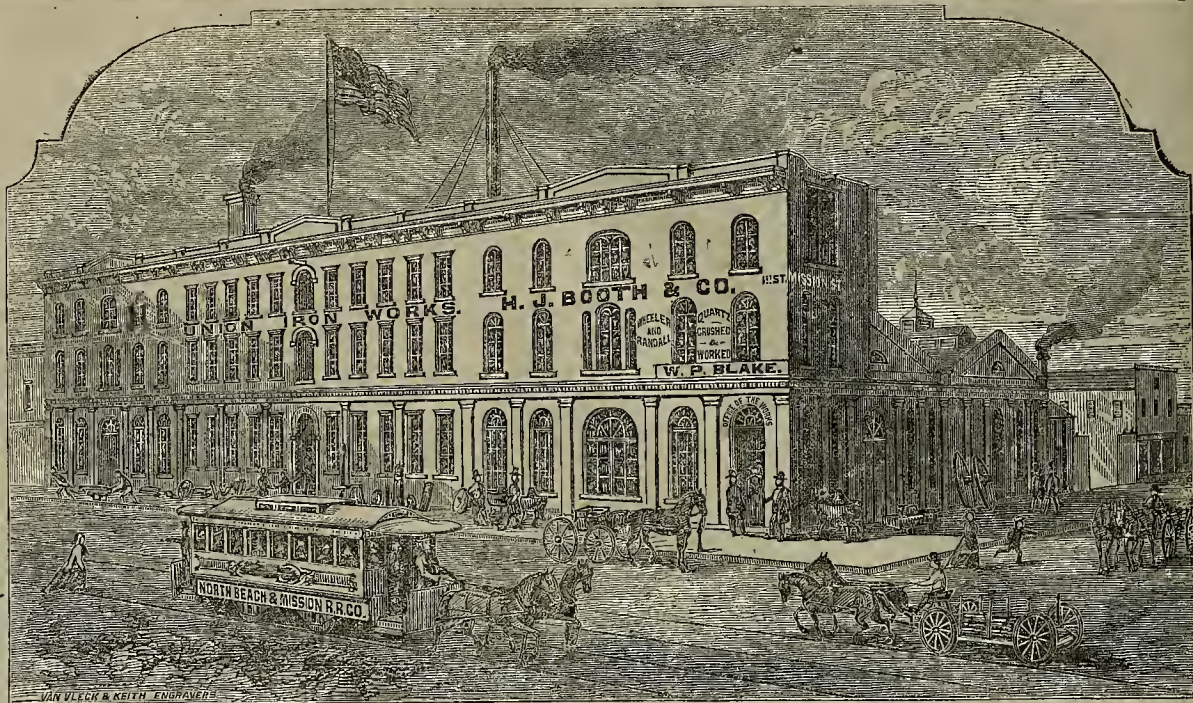
M. GREENBERG. W. H. MOORE.
GREENBERG & MOORE,
Eagle Brass Foundry,
No. 43 First street, San Francisco,
(Between Mission and Market)



MANUFACTURERS OF all kinds of Brass and Bell Castings; Force and Lift Pumps; Cocks and Valves of every description made and repaired; Oil Globes, Steam Whistles, Hydraulic Pipe and Nozzles (for Mining purposes). Also, COUPLINGS OF ALL SIZES. Particular attention paid to Hydraulic Pipes and Nozzles; also, to Ship Work of all descriptions. All orders from the interior will be attended to with promptness and dispatch. 23v12-3m

LEWIS COFFEY. J. S. ALSDON.
LEWIS COFFEY & RISDON,
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, Screw and Drop Presses, Coining Machinery, File Drivers, Bark and Malt Mills, and all kinds of Castings.
ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Bekart's Adjustable Cut-off Regulator—best in use; W. E. Bekart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.
BOILERS.—Locomotive, Plate, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.
PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS,** of all sizes.
OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.
Russia Iron Screws, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.
H. J. BOOTH. GEO. W. FRESCOTT. IRVING M. SCOTT.
24v12 **H. J. BOOTH & CO.**

Vulcan Iron Works Company
(ESTABLISHED 1850.)
First, Natoma and Fremont Streets.

IRON FOUNDERS,
Steam Engine and Locomotive BUILDERS,
Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of new shops on Fremont Street, doubling the capacity of the original establishment. Their facilities for turning out machinery promptly and efficiently, are now unequalled in the State. Their Boiler Works have also been enlarged correspondingly.

The Company are prepared to execute orders for all classes of Machinery and Boiler Work, such as

Mining, Steamship, and Steamboat Machinery,
Railroad Machinery, Flouring Mills, Quartz Mills, Car Trucks, Sugar Mills, Car Wheels, Saw Mills, Hoisting and Irons; and
Manufacturing Machinery of Every Kind.

Sole Manufacturers of
HEPBURN & PETERSON'S REDUCING PAN AND AMALGAMATOR
BEATH'S AMALGAMATOR;
HESE & MOORE'S IMPROVED HOWELL QUARTZ CRUSHER;
BAUX & GUDON'S AMALGAMATOR AND SEPARATOR;
FAUCHER'S QUARTZ GRINDER AND WATER WHEEL;
JONVAL'S IMPROVED WATER WHEEL;
LEFFEL'S AMERICAN DOUBLE TURBINE WATER WHEELS.
STEVEN'S PISTON PACKING RINGS.
They have also a large assortment of Patterns for Pumping and Hoisting Machinery, Gearing, Pulleys, Water Mill Irons, Hydraulic and Screw Presses, Retorts, Furnaces, Grate Bars, House Fronts, Ornamental Fence Posts and Pailing, Stove Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best Hard Iron. Quartz Screens of Russia Iron Punched to Order. 27

GEORGE T. PRACY,
MACHINE WORKS,
Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.
Special attention paid to Repairing. 28 47-3

Pacific Forge Company.
FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST RECEIVED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon car axles, shafts, steamboat cranks, piston-rods, wagon car axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12-3m

J. F. FLYNN. HENRY FRANCE.
FLYNN & FRANCE,
EMPIRE FOUNDRY,
221 Mission street, below Beale, San Francisco, PRACTICAL IRON FOUNDERS, having unequalled facilities for the manufacture of Light and Heavy Castings, particular attention will be given to this department. We manufacture School Seats and Desks, Agricultural Implements, Railing, Ship Castings, Stake Irons, and all other kinds of Heavy and Light Castings, with dispatch. The patronage of the public is respectfully solicited. 24v12-ly

J. O. HANSCOM. H. S. SMITH. HANSCOM & CO., T. PENDERGAST. W. W. HANSCOM.

Etna Iron Works!
Southeast corner Fremont and Tehama streets, SAN FRANCISCO,
Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and Amalgamator,
Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,
Giving greater power, at lower cost, than any wheel in use. Send for one of our circulars, giving full tables. All Wheels warranted to give the power as set forth, or the money will be refunded.

Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies."
None genuine unless obtained from us. Every one warranted.
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited. 19v12

FULTON
Foundry and Iron Works.

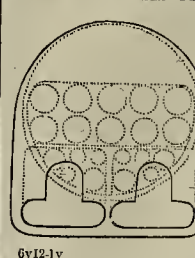
HINKLEY & CO.,
MANUFACTURERS OF

STEAM ENGINES,
Quartz, Flour and Saw Mills,
Moore's Grinder and Amalgamator, Mining Pumps, Amalgamators, and all kinds of Machinery.

Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco. 3-47

NEPTUNE IRON WORKS,
Corner of Mission and Fremont Streets, SAN FRANCISCO.

MARINE, Locomotive,
And all kinds of HIGH PRESSURE
Steam Boilers
MADE
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Shafts, etc., etc. Manufactured to Order.
Old Boilers Repaired D. CAMERON.



UNION IRON WORKS, Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston Packing, for new and old cylinders, manufactured to order.
Front Street, between N and O streets, 14v11 SACRAMENTO CITY

SAN FRANCISCO

Foundry and Machine Works,
N. E. Cor. Fremont and Mission streets, Manufacturers of

Marine and Stationary Engines
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Elder, Cotton and Tobacco Presses of the latest Improved Patterns.
Brodie's Improved Patent WIND BLAST SEPARATOR, for Dry Crushing; Baux & Gudon's Amalgamator and Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

MACHINERY OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.
6v11-ly **DEVON, DINSMORE & CO**



JAMES MACKEN, COPPERSMITH,
No. 226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S
Steam Engine Works,
Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive.
HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the
Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 25v12-3m

(Written for the Mining and Scientific Press.)

From Sierra County.

BY AN INDEPENDENT CONTRIBUTOR.

(Continued from page 114.)

EDITORS PRESS.—En route from Summit City, with her igneous rocks, her boarded veins, impregnated with metalliferous sublimates from Pluto's dominions, her beautiful lake of crystal waters, with her monster town, built in advance of her requirements, her venerable "parients," the "Old Man and Old Woman mountains," with their storm-stained and weather-beaten faces standing in solemn grandeur, chiding her forward children for their idolatrous worship of Munmon, we enter the southerly boundary of Sierra county, apparently in close proximity to the Downieville Buttes, but in reality about ten miles distant. The formations here are metamorphic schists, with numerous veins coursing through them, at a point nearly south of the Dowieville Buttes, and some three miles distant we find the

KEYSTONE MINE.

A property that has rapidly increased in value under the present management. A few years ago this mine was considered comparatively worthless, notwithstanding it had previously paid well. A former superintendent, from a misapprehension as to the strike of the vein, had run an expensive level through adamantine rock into the hill, and parallel with the lode, for some 400 feet; not cutting the lode at the point anticipated, and the company owing a heavy indebtedness (incurred in building their mill), the creditors foreclosed and the property was sold under the hammer for a nominal sum. The present proprietors and purchasers had the good sense to employ a surveyor, who put them on the right track. Two hundred feet of a cross-cut, at right angles with the level already cut, opened up the vein, well defined, 100 feet under old workings, showing a much richer class of ores, and developing a fine property. Recently a shaft has been sunk on the vein eighty feet in depth, as a further test. The vein was found to increase in power and quality of ores as depth was attained, which has given them encouragement to start a new level 300 feet under the present, which will afford backs for many years of profitable workings. This vein is about four feet wide at the bottom of the shaft, composed of quartz of a conchy or banded structure, containing a very rich class of auriferous iron pyrites, with occasionally a little galena and blende occurring in siliceous talcose slate walls.

The schists are here found highly mineralized and metamorphosed, being near the line of contact with the main eruption belt of the Sierras, which consists of granitic traps, porphyry and associate rocks. In this vicinity we find several companies prospecting and developing lodes, some of which show rich prospects of free gold, and others heavily sulphureted veins, which I am informed give good results by assay. I find the metamorphosed schists extend westward at right angles with the stratification (which is N. N. W.) for some three miles, with occasional outbreaks of porphyry and trap. The whole formation, however, is cut by numerous veins of quartz—as a rule, cutting the stratification at a greater or lesser angle, but sometime conformable to it. Their general characteristics indicate the true fissure vein. VIJADOR.

August 25, 1866.

A Rare Chance!

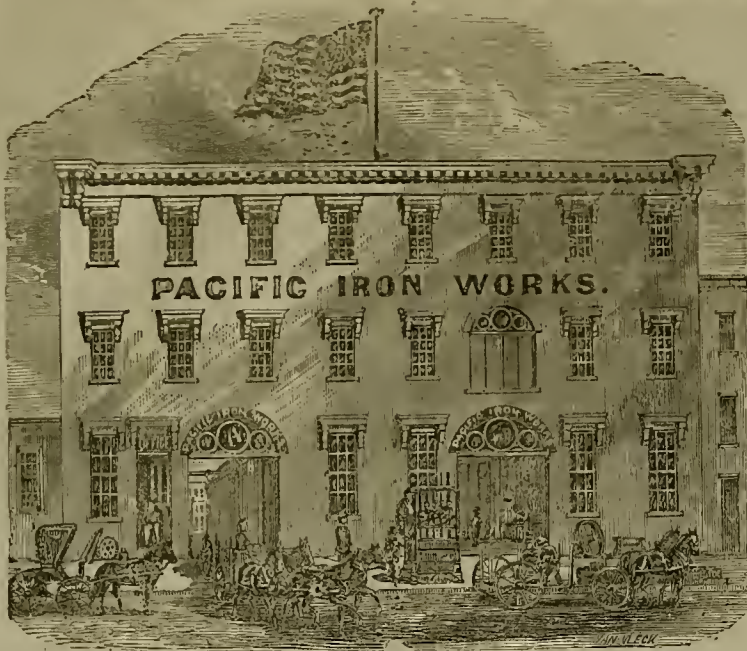
A Splendid Business in Alameda County.
FOR SALE AT A GREAT BARGAIN,
400 ACRES OF LAND,
INCLUDING
Landing, Wharf, Three Capacious
Warehouses,

Capable of holding 12,000 Tons, which amount of grain was stored and shipped the past year. Connected with said business there is an extensive Lumber Yard; sales during last year, two million feet, which sales, and the entire business, can be largely increased.

The above is a rare opportunity for parties desirous of engaging in an active business that will pay a large dividend on the investment. Satisfactory reasons given for selling, and all information desired can be obtained on application by mail, or otherwise, to

G. F. SMITH,
Notary Public and Searcher of Records, office "Beatty House," San Leandro.
8v12 im

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for Book and Pamphlet Printing entrusted to the Mining and Scientific Press Job Office.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2.50 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents. 2v12 F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL,
K Street, between Third and Fourth,
SACRAMENTO,

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and finely ventilated. No expense has been spared to make it comfortable and pleasant for guests.

Price of Rooms very low. Meals, 25 cents. 8v12-6m B. EISENMENGER.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals, 25 cents. Board, per week, \$4.00. Board and Lodging, per day, \$1.00. Single Rooms, 50 cents. Railroad Ticket Office and Stage Office on first floor. 7v12-3m A. J. SENATZ, Proprietor.

Rheumatism!!

READ IT! READ IT!!

SACRAMENTO, April 16th, 1866.
H. BOWMAN—DEAR SIR: THIS IS THE FIRST WRITING I have done in two years, and it affords me great pleasure to be able to use my pen in the service of those who are suffering, as I have suffered, by stating the following facts:

I have for two years and upwards been afflicted with RHEUMATISM, and until a few weeks ago I have never found anything that afforded me any relief. For three months of the time I was unable to feed myself, and for the last five months my arms have been so bent that I have not been able to dress myself. I was five months at the Warm Springs, at San Luis Obispo, and three months at a Hydropathic Institute in Stockholm, and I have been under the care of six different physicians, in the vain hope of relief. About four weeks ago I was induced by a person who had been cured by it to try a bottle of RICHARD'S REMEDY FOR RHEUMATISM, and in less than twelve hours I experienced great relief. In a few days I was enabled to straighten out my arms, and I have been getting better and gaining in strength and flesh ever since. I have now the complete use of all my limbs, and, for the first time in two years, I am out of pain. I do feel for those who suffer as I have suffered, and if they will take my advice, they will lose no time in giving the REMEDY a trial. Yours truly, GEORGE TAYLOR.

Richard's Remedy is for sale by H. BOWMAN, Druggist, Sacramento. 2v12 Price, \$2.50 per Bottle.

COPPERAS! COPPERAS!

200 BARRELS COPPERAS—SULPHATE OF IRON. For sale, in lots to suit, BENJAMIN BRADY,

103 California street, South-west corner of Davis, up-stairs. 2v12

Capitalists, Attention!

QUARTZ MILL & MINING PROPERTY
FOR SALE
In Nevada County.

A NEW 8-STAMP QUARTZ MILL, 7 LEDGES AND 640 acres heavily-timbered Land, near Eureka, Nevada County, are now offered for sale. The Mill is run by steam-power, and is in complete order for business. The ledges, which form the principal value of this property, are all large and well-defined, but require a further outlay of capital, in order to make them remunerative. For the lack of claims to properly develop these claims, the present owners are disposed to sell the same for a reasonable price.

Capitalists wishing to engage in mining will find this a splendid opportunity to purchase a property that will bear right scrutiny, and offers superior inducements as an investment.

For address and further information, inquire of the Publishers of the MINING AND SCIENTIFIC PRESS, 505 Clay street, San Francisco. 2v12

HAYWARD, COLEMAN & CO.,
IMPORTERS AND REFINERS

Illuminating, Lubricating,
PAINT OILS!

CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATSFOOT, BOILED AND RAW LINED, CASTOR AND CHINA NUT.

—ALSO—
SPIRITS OF TURPENTINE & ALCOHOL

Note.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand. 4v13-3m 19 414 Front street, San Francisco.

THE CALIFORNIA

Aerated or Unfermented
BREAD COMPANY.

Bakery on Folsom Street,
Between Tenth and Eleventh.....SAN FRANCISCO

MESSRS. TAGGART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in partnership, are happy in announcing to the public that they are now prepared, and would respectfully sell it, all orders for his truly whole-some and cleanly bread. We have a sufficient number of delivery wagons at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.

Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention:

Order box at C. J. Hawley & Co.'s Grocery, corner Second and Jessie streets; Rowland & Walker, 617 Clay street; Plummer's Carpet Store, Montgomery street, opposite Lick House; G. W. Clark, Paper Hanging, corner Sansone and Clay streets. Orders handed to any of the route-men likewise. We expect soon to be prepared to supply Pastry, likewise the Boston Brown Bread, and Beans of the first quality. Due notice will be given.

The present Company is entirely independent of the former California Unfermented Bread Company, neither of them having been in any way connected with that company. We would cordially invite the public to make a visit to our new bakery. 4v13-3m S. R. BULKLEY, Business Partner.

Metallurgy.

BOALT & STETEFELDT,
Metallurgists and Mining Engineers
AUSTIN, NEVADA.
Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 1v11

G. W. MAYNARD. J. H. TIEMANN.
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
240 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.
1v12 1y

Copper, Lead, Gold, Silver,
Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,

Agent for Townshend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.
Special attention paid to Gold Bearing Sulphurates. 1v10 3m

To Copper Miners and Others Interested in
the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by A. Haskell, for the sale of his COPPER SMELTING PLANT, which has proved a perfect success, prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their ore, receivable at their mines. For further particulars apply to JOHN K. RISDON, 2v12 At Coffey & Risdon's, San Francisco.

MARTIN & CO.,

Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE
PURCHASE OF COPPER ORES.
Assaying eight per cent. and upwards of Copper to the ton. We will make advances upon Ores of Copper. San Francisco, Post Office Box 1293. 22

PACIFIC CHEMICAL WORKS

—AND—
ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of

Manufacturing Chemicals,
Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, &c.

FALKENAU & HANKS,
Laboratory, corner Folsom and Center streets,
—AND—
Office, 620 Washington street, San Francisco. 2v12-1m

EUROPEAN
METALLURGICAL WORKS,

—AND—
Practical Mining School,
Bryant Street, Between Third and Fourth,
SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphuret, pyrites, and the so-called "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

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The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

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NAPA CITY, May 9th—Messrs. DREW & Co., Patent Agents, San Francisco: Yours of May 7th is at hand. I am pleased to hear of the receipt of our caveat papers at the U. S. Patent Office, Washington, D. C. You have my fullest thanks for your energetic movements concerning the same. Respectfully, yours, W. W. LEVING.

Continued Subscriptions.

For the reason that it is not always practicable to have our agent call upon subscribers for a renewal of their subscriptions as soon as their terms expire, we shall, when requested, continue to send the paper until our Collector calls around. This will only apply to old subscribers in the State of California, whose residences are within our regular canvassing routes. If the subscription is not promptly paid when the Canvassing Agent calls, the paper will be immediately stopped, and the bill left with the postmaster or express agent for collection.

No new subscriptions or renewals received without payment in advance. August 1, 1886.

Professional Cards.

FREDERICK MANSELL.

Mechanical & Architectural Draughtsman,
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Drawings of Monuments made for parties applying for patents at Washington or London. mar23-tf

JAMES M. TAYLOR,

Attorney and Counsellor at Law,
COURT COMMISSIONER, appointed by the Fourth District Court, COMMISSIONER OF DEEDS for Nevada and Massachusetts.
Court Block, San Francisco.
Entrances opposite City Hall, Merchant street, and 636 Clay street.

DR. H. AUSTIN,

DENTIST,

No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER SAN FRANCISCO RATHS] 'S
SAN FRANCISCO. 20v10-47

DR. D. R. BECKFORD,

OCULIST,

Office of Dr. Beckford's "Golden Eye Water,"
16v12-3m NO. 719 CLAY STREET.

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Stock Broker,

Member of the
San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
Office, No. 540 Washington Street, San Francisco. 2v10

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MINING ENGINEER,

Will make Surveys and Examinations of Mines, or give advice regarding their working, the erection of Machinery, etc.
Office at Union Iron Works, corner of First and Mission streets, or Lock Box 2,077 Post Office, San Francisco. 11v22-47

GEORGE H. BAKER,

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SHERMAN DAY,

Mining Engineer,

No. 57 Montgomery Block, San Francisco.
Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines. 2v14

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Giving full particulars of the College, can be had FREE, by calling at the College, or addressing
E. P. HEALD,
3v13 President Business College, San Francisco.

SANTA CLARA COLLEGE, S. J.,

SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SIXTEENTH ANNUAL SESSION of this College will commence on
Monday, August 20th, 1886.

TERMS.—Tuition in the Classical and Scientific Department; Boarding and Lodging; Washing and Mending of articles washed; School Stationery; Medical Attendance and Medicine; Fuel, light, baths, etc., per session of ten months. \$350

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco. 5v11-1au12
REV. A. MANSATA, S. J., President.

SEND US WORK.—If any subscriber to this journal fails to receive the same regularly and promptly, they will con for a favor by informing us at once.

Our Patent Agency.

The PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

THE MINING PRESS is particularly the miners' journal, and is doing more for the solid interests of the State than any other, by enabling its readers to unlock the mines of untold wealth which lie waste around them.—[Mountain Messenger.

SAN JOSE INSTITUTE

Commercial College,

SAN JOSE,
Santa Clara County, California.

THE NINTH SESSION WILL COMMENCE ON THURS.

DAY, July 25th, 1886.
A new, practical and complete Business Course has been adopted, differing from that of any other school in the State. We call the especial attention of Business Men, or those wishing to give their sons a thorough, practical Business Education, to this fact, and request them to send for a Circular before deciding what School they will pat onize. Ample accommodations for boarders in the Seminary. Ornaments, Music, Ancient and Modern Languages taught.

Special arrangements have been made for boys between the ages of ten and eighteen.

For further particulars or Circular, address

FREEMAN GATES, Principal.

Or, GEO. E. HOUGHTON, Prin. Com. Dept. 1v14tf

New Mining Advertisements.

Assurance Mining Company.—Location: Ocidental Lode, San Benito Mining District, County of Monterey, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of August, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, Room No. 4, 302 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twelfth (12th) day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. H. RUSSELL, Secretary.

Office, Room No. 4, 302 Montgomery street, San Francisco. 1v1

Arbitros Mining Company, Batopilas District, State of Chihuahua, Mexico.
Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of August, 1886, an assessment (No. 11) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his Office, No. 811 Montgomery street, up stairs, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the third day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty-sixth day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. MARTINSON, Secretary.

Office, 811 Montgomery street, San Francisco, Cal.

N. B.—Until further notice, all advertisements of this Press will appear in the "Mining and Scientific Press."

Chilpanca Mining Company.—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of August, 1886, an assessment of two dollars and fifty cents (\$2.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, up stairs, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifteenth day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. 1v1

Cordillera Gold and Silver Mining Company, Chihuahua, Moriles Mining District, Chihuahua, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eighteenth day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J. H. Handley	8	25	\$25 00
G. J. H. H.	76	5	50 00
G. M. Parvill	23	10	10 00
Robert Haskell	15	26	26 00
A. Clark	105	21	21 00
W. J. F. H.	18	26	26 00
R. McFarland	19	26	26 00
W. R. Cooper	254	26	26 00
W. R. Cooper	253	26	26 00
L. L. Knight	75	2	2 00
G. E. Williams	82	5	5 00
J. H. Wood	83	3	3 00
J. B. Wood	132	5	5 00
G. B. Andrews	114	5	5 00
G. B. Andrews	102	5	5 00
P. McDonald	117	20	20 00
J. J. H.	140	20	20 00
M. J. Fitzgerald	140	20	20 00
A. R. Flanagan	105	3	3 00
A. R. Flanagan	115	5	5 00
H. H. Batford	105	10	10 00
M. Carroll	195	3	3 00
Wm. P. Small	208	5	5 00
P. McDonald	209	5	5 00
Ann Deberry	213	2	2 00
M. A. Flagin	214	2	2 00
J. M. Curtis	241	10	10 00
C. Page	51	10	10 00
J. J. Sullivan	186	16	16 00
D. J. Sullivan	223	3	3 00
D. J. Sullivan	229	3	3 00

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of July, 1886, and a subsequent order made August twenty-fourth, 1886, postponing the advertisement of the delinquent list until September first 1886, so many shares of each parcel of said stock as may be necessary will be sold at the auction rooms of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the seventeenth day of September, 1886, at 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary.

Office, 321 Washington street, up stairs, San Francisco, Cal. 1v1

Cosala Silver Mining Company, Cosala District, State of Sinaloa, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the thirtieth day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Arcey Walter W.	463	50	\$50 00
Arcey Walter W.	568	25	25 00
Bayless J. H.	61	100	100 00
Bayless J. H.	62	100	100 00
Bayless J. H.	654	205	205 00
Crowley Timothy	566	11	11 00
Ellison James	110	5	5 00
Flick W. F.	457	25	25 00
McComb Annie R.	469	10	10 00
Moran Thomas A.	491	10	10 00
Moran Thomas A.	502	15	15 00
Nelson Mrs E.	33	11	11 00
Nelson Mrs E.	43	5	5 00
Nelson Mrs E.	433	16	16 00
Rice F. M.	458	44	44 00
Schleiden W.	127	50	50 00
Schleiden W.	128	50	50 00
Schleiden W.	516	44	44 00
Schleiden W.	524	135	135 00
Thompson I. D.	477	103	103 00
Thompson I. D.	551	300	300 00
Thompson I. D.	552	135	135 00
Thompson I. D.	553	60	60 00
Thompson I. D.	554	25	25 00
Thompson I. D.	555	25	25 00
Thompson I. D.	556	20	20 00
Tams Sampson	635	20	20 00
Webb Francis A.	627	60	60 00

And in accordance with law, and an order of the Board of Trustees, made on the thirtieth day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at the auction rooms of Maurice Dore & Co., 327 Montgomery street, San Francisco, Cal., on the seventeenth day of September, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHAS. BAUM, Secretary.

Office, No. 510 Battery street, opposite the Custom House, San Francisco, Cal. 1v1

Consolidated Silver Hill Mining Company.

Location of Works: Esmeralda District, State of Nevada.
Notice is hereby given that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of August, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the company, Room No. 15 Government House, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-second day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN S. MACKENZIE, Secretary.

Office, Room 15 Government House, San Francisco. 31

Del Norte Comstock Company.—Location:

Del Norte County, California.
Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of July, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adams R. E.	45	85	\$102 00
Adams R. E.	73	75	75 00
Basler Geo A.	43	50	75 50
Basler Geo A.	49	30	45 50
Bayly W. J.	5	275	82 50
Bloxome L.	48	50	15 00
Bloxome L.	53	44	13 20
Bloxome L.	67	60	15 00
Bloxome L.	16	130	39 00
Boland W. H.	59	10	10 00
Beard Geo.	107	25	7 50
Christy Henry	46	40	12 00
Christy Henry	103	40	12 00
Emery Thomas	29	150	45 00
Frees Daniel	53	60	15 00
Frees Daniel	55	60	15 00
Frees Daniel	58	10	3 00
Frees Daniel	62	10	3 00
Frees Daniel	63	10	3 00
Frees Daniel	64	10	3 00
Frees Daniel	65	10	3 00
Frees Daniel	66	10	3 00
Frees Daniel	67	10	3 00
Haskell D. Hale	72	94	25 25
Hull Geo L.	100	15	4 50
Hull Geo L.	105	15	6 75
Harrington J. C.	106	60	15 00
Leane D.	89	92	59 00
Leane D.	93	10	10 00
Mosley A. L.	12	200	200 00
Mosley A. L.	21	150	150 00
Mosley A. L.	68	105	145 25
Mosley A. L.	83	5	15 00
Nugent Thomas	70	60	15 00
Nugent Thomas	72	25	15 75
Nugent Thomas	75	15	11 25
Nugent Thomas	76	10	7 50
Nugent Thomas	77	10	7 50
Nugent Thomas	78	10	7 50
Nugent Thomas	79	5	7 50
Nugent Thomas	80	5	7 50
Peck Charles S.	104	25	11 25
Reynolds Kate	117	275	330 00
Reynolds Kate	118	30	30 00
Sickels G. W.	39	5	7 50
Stanford James H.	41	40	12 00
Stanford James H.	94	10	3 00
Van Vost James	42	55	42 75

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, rooms of Maurice Dore & Co., 327 Montgomery street, San Francisco, Cal., on the twenty-fourth day of September, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary.

Office, No. 331 Montgomery street, San Francisco, Cal. 1v1

Hanacom Copper Mining Company.—Location:

Del Norte county, Low Drive District, California.
Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the thirtieth day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Burke, Martin J.	45	15	\$ 25
Brown, Geo. F.	20	12	25
Beach, R. H.	67	12	25
Cummings, A. H.	40	12	25
Callaghan, Sarah A.	14	3	50
Dennis, S. W.	70	3	15 00
Gluyas, R. A.	Not issued	100	15 00
Kelly, Lewis	Not issued	2	40
Ruggles, John	23	4	60
Ruggles, John	24	4	60
Simons, B. James	19	92	1 45
Simons, Emma	13	3	55
Thompson, M. A.	73	3	50
Wheeler, C. F.	Not issued	12	18

And in accordance with law, and an order of the Board of Trustees, made on the thirtieth day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, 609 Market street, San Francisco, Cal., on the fifteenth day of September, 1886, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. S. SWEET, Secretary.

Office, No. 609 Market street, San Francisco, Cal. 1v1

Nuestra Senora de Guadalupe Silver Mining Company, Tayolita District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company held on the twenty-fifth day of June, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, at the office, No. 210 Post street, or to the Treasurer, A. H. H. H. H., at his office, No. 557 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirty-first day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.

Office, 210 Post street, San Francisco, Cal.

N. B.—The above is assessment No. 24, levied on June twenty-fifth, 1886, and now re-advertised, in accordance with an order of the Board of Trustees, at a meeting held on the thirtieth day of August, 1886. The omission to complete the advertising, in accordance with the first order, occurred by delay in order to receive news from interested parties in New York City. E. J. PFEIFFER, Secretary. San Francisco, August 30th, 1886. 1v1

San Marcial Silver Mining Company.—Location:

Marcel District, Hermosillo, State of Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of August, 1886, an assessment of one (\$1) dollar per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 31 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-first day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary.

Office, 331 Montgomery street, San Francisco. 1v1

Mining Notices—Continued.

Antioch Premium Petroleum Company.—Location:

Antioch, Contra Costa County, Cal.

Eagle Quartz Mining Company.—Location of Works: Amador County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J H Applegate.....	31	10	\$10 00
J P Bush.....	19	100	100 00
R A Bush.....	156	50	50 00
J A Carle.....	66	30	30 00
J A Carle.....	129	20	20 00
J A Carle.....	179	10	10 00
J A Carle.....	183	10	10 00
J P Dullip.....	28	10	10 00
J P Dullip.....	27	5	5 00
J E Dambach.....	161	184	184 00
R R Harris.....	137	100	100 00
John Herzo.....	141	30	30 00
G S Hawkell.....	11	10	10 00
G S Hawkell.....	35	20	20 00
Tru G Holt.....	153	20	20 00
A A Harlow.....	158	5	5 00
Isaac H Swell.....	8	25	25 00
T E Kuntley.....	29	10	10 00
H R Reed.....	168	5	5 00
H R Reed.....	168	10	10 00
H R Reed.....	184	8	8 00
H R Reed.....	187	6	6 00
G L Williams.....	173	25	25 00
G L Williams.....	187	50	50 00

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the auction rooms of John Middleton & Son, 404 Montgomery street, San Francisco, California, on the fifth day of September, 1886, at the hour of 12 o'clock, M., of said day, to the highest bidder, for cash, in United States gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN M. BURNETT, Secretary,
Office, No. 10 Exchange Building, (713 Montgomery street)
San Francisco, California. au18

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.—Assessment No. 13.

Notice is hereby given, that a meeting of the Board of Trustees of said Company, held on the fourteenth day of August, 1886, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, only.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the first day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN M. BURNETT, Secretary,
Office, 333 Montgomery street, San Francisco. au 8

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.—Assessment No. 14.

Notice is hereby given, that the regular Annual Meeting of the above Company, will be held on MONDAY, September 17th, 1886, at the office of said Company, for the purpose of electing a Board of Trustees, to serve for the ensuing year; also, for the transacting of any and all other business that may properly come before said meeting.

W. D. ROOT, Secretary.

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 31st day of July, 1886, an assessment (No. 8) of one dollar per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, R. WEGENER, 415 Montgomery street, San Francisco, California, or to the Superintendent, Mr. H. HUGGER, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-fifth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary,
Office, 415 Montgomery street, San Francisco, Cal. au14

I. X. L. Gold and Silver Mining Company.—Notice.—The Annual Meeting of the stockholders of the I. X. L. Gold and Silver Mining Company, will be held at the office of the Company, No. 335 Montgomery street, on THURSDAY, September 15th, at 10 o'clock, A. M.

JAMES C. DAYLEY, Secretary.

Kentucky Copper Mining Company, Calaveras County, California.

Notice is hereby given, that the certificates, No. 44 of fifteen shares, and No. 109 of ten shares, Kentucky Copper Mining Company, standing in my name, have been lost. The transfer being stopped, the public are cautioned against purchasing the same.

J. R. DENNIS,
San Francisco, August 20, 1886. au25-3m

Kentucky Copper Mining Company, Mine Felix District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of August, 1886, an assessment of one dollar per share was levied upon the capital stock of said Company, payable on the fifth day of September, 1886, in United States gold and silver coin, to the Secretary, at his office, 614 Washington street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the fifth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-sixth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. BAUER, Secretary,
Office, 814 Washington street, San Francisco, Cal. au14

Leland Gold and Silver Mining Company.

Location of Works: San Francisco District, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alonso Young.....	81	41	\$20 50
Alonso Young.....	83	20	10 00
Alonso Young.....	85	100	50 00
Alonso Young.....	86	32	16 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of September, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company in San Francisco, Cal., on the tenth day of September, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. HOLLIS, Secretary,
Office, 302 Montgomery street, Room 2, third floor. au25

Lady Bryan Gold and Silver Mining Company.—Location of Works: Storey County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adelt L B.....	2407	10	\$10 00
Adelt L B.....	2412	10	10 00
Adelt L B.....	2413	10	10 00
Adelt L B.....	2414	10	10 00
Adelt L B.....	2415	10	10 00
Adelt L B.....	2416	10	10 00
Adelt L B.....	2417	10	10 00
Adelt L B.....	2418	10	10 00
Adelt L B.....	2419	10	10 00
Adelt L B.....	2420	10	10 00
Adelt L B.....	2421	10	10 00
Adelt L B.....	2422	10	10 00
Adelt L B.....	2423	10	10 00
Adelt L B.....	2424	10	10 00
Adelt L B.....	2425	10	10 00
Adelt L B.....	2426	10	10 00
Adelt L B.....	2427	10	10 00
Adelt L B.....	2428	10	10 00
Adelt L B.....	2429	10	10 00
Adelt L B.....	2430	10	10 00
Adelt L B.....	2431	10	10 00
Adelt L B.....	2432	10	10 00
Adelt L B.....	2433	10	10 00
Adelt L B.....	2434	10	10 00
Adelt L B.....	2435	10	10 00
Adelt L B.....	2436	10	10 00
Adelt L B.....	2437	10	10 00
Adelt L B.....	2438	10	10 00
Adelt L B.....	2439	10	10 00
Adelt L B.....	2440	10	10 00
Adelt L B.....	2441	10	10 00
Adelt L B.....	2442	10	10 00
Adelt L B.....	2443	10	10 00
Adelt L B.....	2444	10	10 00
Adelt L B.....	2445	10	10 00
Adelt L B.....	2446	10	10 00
Adelt L B.....	2447	10	10 00
Adelt L B.....	2448	10	10 00
Adelt L B.....	2449	10	10 00
Adelt L B.....	2450	10	10 00
Adelt L B.....	2451	10	10 00
Adelt L B.....	2452	10	10 00
Adelt L B.....	2453	10	10 00
Adelt L B.....	2454	10	10 00
Adelt L B.....	2455	10	10 00
Adelt L B.....	2456	10	10 00
Adelt L B.....	2457	10	10 00
Adelt L B.....	2458	10	10 00
Adelt L B.....	2459	10	10 00
Adelt L B.....	2460	10	10 00
Adelt L B.....	2461	10	10 00
Adelt L B.....	2462	10	10 00
Adelt L B.....	2463	10	10 00
Adelt L B.....	2464	10	10 00
Adelt L B.....	2465	10	10 00
Adelt L B.....	2466	10	10 00
Adelt L B.....	2467	10	10 00
Adelt L B.....	2468	10	10 00
Adelt L B.....	2469	10	10 00
Adelt L B.....	2470	10	10 00
Adelt L B.....	2471	10	10 00
Adelt L B.....	2472	10	10 00
Adelt L B.....	2473	10	10 00
Adelt L B.....	2474	10	10 00
Adelt L B.....	2475	10	10 00
Adelt L B.....	2476	10	10 00
Adelt L B.....	2477	10	10 00
Adelt L B.....	2478	10	10 00
Adelt L B.....	2479	10	10 00
Adelt L B.....	2480	10	10 00
Adelt L B.....	2481	10	10 00
Adelt L B.....	2482	10	10 00
Adelt L B.....	2483	10	10 00
Adelt L B.....	2484	10	10 00
Adelt L B.....	2485	10	10 00
Adelt L B.....	2486	10	10 00
Adelt L B.....	2487	10	10 00
Adelt L B.....	2488	10	10 00
Adelt L B.....	2489	10	10 00
Adelt L B.....	2490	10	10 00
Adelt L B.....	2491	10	10 00
Adelt L B.....	2492	10	10 00
Adelt L B.....	2493	10	10 00
Adelt L B.....	2494	10	10 00
Adelt L B.....	2495	10	10 00
Adelt L B.....	2496	10	10 00
Adelt L B.....	2497	10	10 00
Adelt L B.....	2498	10	10 00
Adelt L B.....	2499	10	10 00
Adelt L B.....	2500	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., No. 418 Montgomery street, San Francisco, on the eleventh day of September, 1886, at the hour of one o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. O. HOWARD, Secretary,
Office, 623 Montgomery street, San Francisco. au25

Lady Bell Copper Mining Company, Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of August, 1886, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 311 Market street, San Francisco, or to G. W. Russell, Crescent City.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of September, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

C. H. WOOD, Secretary,
Office, 311 Market street, San Francisco, Cal. au1

Lady of the Lake Gold and Silver Mining Company, San Francisco District, Mohave County, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the 21st day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alonso Young.....	77	50	\$25 00
Alonso Young.....	78	73	36 50
Sarah Mitchell.....	93	25	12 50
Sarah Mitchell.....	74	25	12 50

And in accordance with law, and an order of the Board of Trustees, made on the 21st day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company in San Francisco, Cal., on the tenth day of September, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WM. HOLLIS, Secretary,
Office, 302 Montgomery street, Room 2, third floor. au25

Mina Rica de las Flores Mining and Mill Company, Camp Flores, near West Point, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of August, 1886, an assessment (No. 13) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 423 Washington street, Room No. 13, up stairs, San Francisco, Cal., between the hours of 11 A. M. and 1 P. M.

Any stock upon which said assessment shall remain unpaid on the second day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-ninth day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. DICKINSON, Secretary,
Office, 423 Washington street, San Francisco, Cal. au25-6t

Old Colony Silver Mining Company.—Location of Works: Austin, Reese River, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of August, 1886, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, 525 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary,
Office, 525 Montgomery street, San Francisco. au1

Rattlesnake Gold and Silver Mining Company, Spring Valley District, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of August, 1886, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twelfth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the third day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary,
Office, 318 California street, San Francisco. au1

Simpson Mining and Milling Company, Mokelumne District, Alpine County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of August, A. D. 1886, an assessment of thirty cents per share was levied upon the capital stock of said Company, payable by the fourth day of September next, in gold coin of the United States, to the Secretary, at his office, southwest corner of Front and Jackson streets, up stairs, San Francisco, State of California.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the twenty-fourth day of September next, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. BIGELOW, Secretary,
Office, southwest corner of Front and Jackson streets, up stairs, San Francisco, State of California. au1

Segregated Belcher Mining Company, Gold Hill District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of August, 1886, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the fourteenth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the twenty-fourth day of September next, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary,
Office, 318 California street, San Francisco, Cal. au18

Scott Mining and Exploring Company.—Location of Mines, etc., in Humboldt County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fourteenth day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Scott, E. A.....	15	50	\$25 00
Scott, E. A.....	112	20	10 00
Scott, E. A.....	113	25	12 50
Scott, E. A.....	114	10	5 00
Scott, E. A.....	115	10	5 00
Scott, E. A.....	116	10	5 00
Scott, E. A.....	117	10	5 00
Scott, E. A.....	118	10	5 00
Scott, E. A.....	119	10	5 00
Scott, E. A.....	120	10	5 00
Scott, E. A.....	121	10	5 00
Scott, E. A.....	122	10	5 00
Scott, E. A.....	123	10	5 00
Scott, E. A.....	124	10	5 00
Scott, E. A.....	125	10	5 00
Scott, E. A.....	126	10	5 00
Scott, E. A.....	127	10	5 00
Scott, E. A.....	128	10	5 00
Scott, E. A.....	129	10	5 00
Scott, E. A.....	130	10	5 00
Scott, E. A.....	131	10	5 00
Scott, E. A.....	132	10	5 00
Scott, E. A.....	133	10	5 00
Scott, E. A.....	134	10	5 00
Scott, E. A.....	135	10	5 00
Scott, E. A.....	136	10	5 00
Scott, E. A.....	137	10	5 00
Scott, E. A.....	138	10	5 00
Scott, E. A.....	139	10	5 00
Scott, E. A.....	140	10	5 00
Scott, E. A.....	141	10	5 00
Scott, E. A.....	142	10	5 00
Scott, E. A.....	143	10	5 00
Scott, E. A.....	144	10	5 00

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been burished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

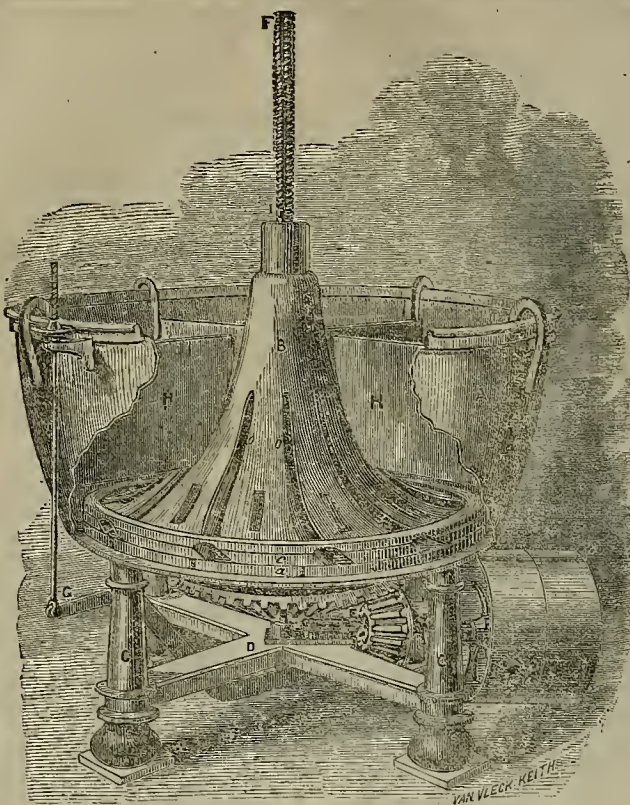
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

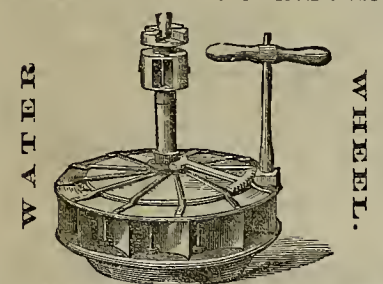
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,** San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given universal satisfaction whenever used, is now for sale by **KNAPP & GRANT,** 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 50 feet fall. Let us know how much water you have either in miner's liches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to **KNAPP & GRANT,** San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by **KNAPP & GRANT,** San Francisco.

The Hansbrow Pumps ARE WARRANTED THE BEST.

FIFTEEN KINDS AND SIZES, I
Adapted for FARM,

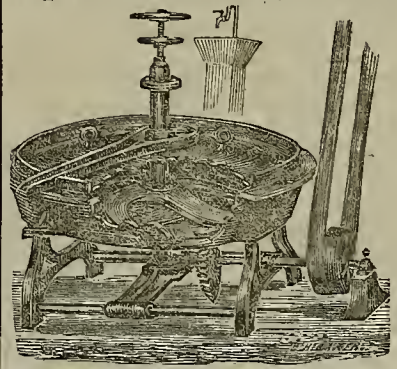
Mill and Mining Purposes.

Placed for
HAND, WIND, HORSE, WATER AND STEAM POWER.
For sale in every city and town on the Pacific Coast.

LOCKE & MONTAGUE, Agents,
112 and 114 Battery Street, San Francisco.

Send for Illustrated Catalogue. 2312-2m

BAUX & GUIOD'S Separator and Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1864, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIOD'S Pan, are the following: The tripping cost for attendance; its small cost; its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping as it is constructed to work continuously. The complete thoroughness of the separation of the rock from the metals and the tripping power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jeffersonian Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Crall's Gravel Cement Works, Nevada county; Waltham's Chlorination Works, Nevada; Cal.; Gold Hill Quartz Mill, Washoe.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Heugb & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address

J. B. BAUX,
Premont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 413-6d

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE
ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent.

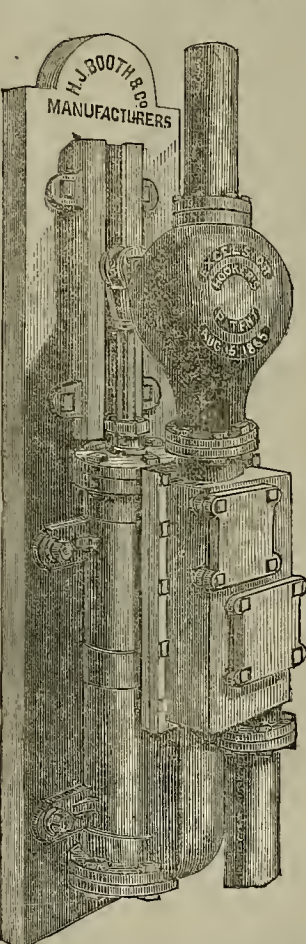
At Job M. SEAMAN & Co's, 631 WASHINGTON STREET,
San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an everyday piece, and runs from year to year without change. It can be examined at the Office of the Mining and Scientific Press. 2313p-1f

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 1912

EXCELSIOR PUMP!



HOOKER'S PATENT!

CHALLENGES COMPETITION!

THIS DOUBLE-ACTING SECTION AND FORCE PUMP challenges competition for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufacturers, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITTON & CO.,
General Agents,
120 Front street, San Francisco. 2313-3m

STODDARD'S CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER, OR SPRING VALLEY WATER
perfectly pure and healthy. Three sizes. Price, \$12,
\$15 and \$18. For sale by

S. B. STODDARD,
Corner of Battery and Pacific streets
June 23, 1866 2312-3m

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Cold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention. 1512-3m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

1912 416 Market street, San Francisco.

Kerosene and Gas Stoves.

TEA AND COFFEE BOILERS, GLUE POTS, OIL CANS, etc., etc.

Each Article manufactured by this Company is guaranteed to perform all that is claimed for it.
Send for Circular.
LIBERAL DISCOUNT TO THE TRADE.

KEROSENE LAMP HEATER COMPANY.
206 Pearl Street, New York 6v13-2m

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by

THOMAS H. SELBY & CO.,
2312 3m Nos. 116 and 118 California street

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. One to three-ply Hose made. All orders punctually attended to.

S. HOWARD,
aull-ly 326 Davis street, San Francisco.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT!

PICKERING'S GOVERNORS

For Steam Engines

Gifford's Injectors,

For Feeding Boilers.

STODDARD'S IRON WORKS,

114 Beale Street, San Francisco.

2312 3m

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13r SAN FRANCISCO.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery
OF ALL KINDS.

Especially attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. F. Low; C. T. Meader, Stockton; Jacob Underhill & Co., San Francisco; J. W. Stow, Russell & Erwin Manufacturing Company; Office, No. 120 Front street, San Francisco. 4v12

Economy in Advertising.—The MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than ours but the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The PRESS contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

A DROP OF INK.—Think of a queen's first signature to a death-warrant, where tears tried to blanch the fatal blackness of the doom ink; or a traitor's adhesion to a deed of rebellion, written in gall; of a forger's trembling imitation of another's writing, where each letter took the shape of the gallows; of a lover's passionate proposal written in fire; of a proud girl's refusal written in ice; of a mother's dying expostulation with a wayward son written in her heart's blood; of an indignant father's disinheriting curse on his first born, black with the lost color of the gray hairs which shall go down with sorrow to the grave—think of these and of all the other impassioned writings to which every hour gives birth, and what a strangely potent, Protean thing a drop of ink grows to be!

All over the world it is distilling at the behest of men. Here a despairing prisoner is writing with a rusty nail his dying confession of faith on his damp dungeon wall. There an anxious lover is deceiving all but his bride with an ink which only she knows how to render visible. Belonged soldiers in Indian forts are confiding to the perilous secrecy of rice-water or innocent milk their own lives and the fortunes of their country. Shipwrecked sailors, about to be engulfed in mid-ocean, are consigning to a floating bottle the faint pencil memorandum of the spot where they will swiftly go down into the jaws of death. Everywhere happy pairs, dear husbands and wives, affectionate brothers and sisters, and all the busy world are writing to each other on endless topics, with whatever paper comes to hand, whatever ink! The varied stream thus forever flowing is the intellectual and emotional blood of the world, and no one need visit Egypt or summon an eastern magician to show him all the acts, all the joys and woes of men reflected from the mirror of a drop of ink.

A BEAUTIFUL SENTIMENT.—Shortly after the departure of the lamented Heber for India, he preached a sermon which contained this beautiful illustration:

"Life bears us on like the stream of a mighty river. Our boat at first glides down the narrow channel—through the playful murmurings of its grassy borders. The trees shed their blossoms over our young heads, the flowers seem to offer themselves to the young hands; we are happy in hope, and grasp eagerly at the beauty around us, but the stream huries on, and still our hands are empty. Our course in youth and manhood is along a deeper and wider flood, among objects most striking and magnificent. We are animated at the moving pictures and enjoyment and industry around us; we are excited at some short lived disappointment. The stream bears us on, and our joys and our griefs are alike left behind us. We may be shipwrecked, but we cannot be delayed; whether rough or smooth, the river hastens on till the roar of the ocean is in our ears, and the tossing of the waves is beneath our feet, and the floods are lifted up around us and we take our leave of earth and its inhabitants, until of our future voyage there is no witness save the Infinite and Eternal."

J. B. CONE, BUSINESS AGENCY.—Makes private sales of Property and Business Places of every description, in the city and throughout the State; procures partners with large and small amounts of money; negotiates sales of mining property, and does a General Agency Business. Patronage solicited by mail, express, or by personal application at the office, 402 Montgomery Street, San Francisco, California. 2v111t

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EXTENSIONS OR REISSUES OF PATENTS

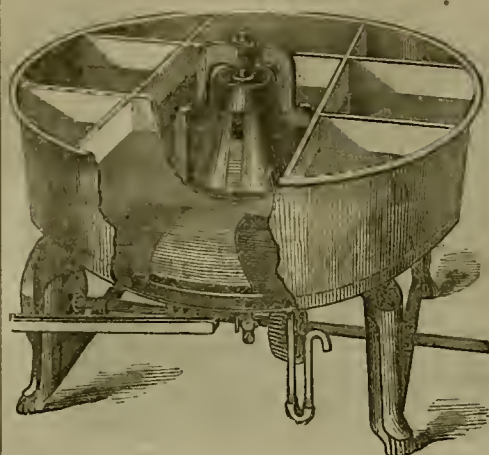
Already granted; will act as Attorneys in presenting Applications at the Patent Office, and in managing them to a final issue; will draw up Assignments; will examine into the condition of Rejected Applications when desired to do so; and undertake the prosecution of such as may be considered patentable, and do whatever else is usually done by Patent Solicitors.

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14v13p12q

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ISRAEL W. KNOX, or

W. A. PALMER, Inventors,

At the Golden State Iron Works, No. 19 First street, San Francisco.

CAUTION!—TO WHOM IT MAY CONCERN.—THE public are hereby notified that a patent was allowed Dec. 24, 1864, and issued June 27th, 1865, to Professor Henry Wertz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WERTZ AMALGAMATION COMPANY,
OF NEW YORK.

Assignees of letters patent granted to Prof. Henry Wertz, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.

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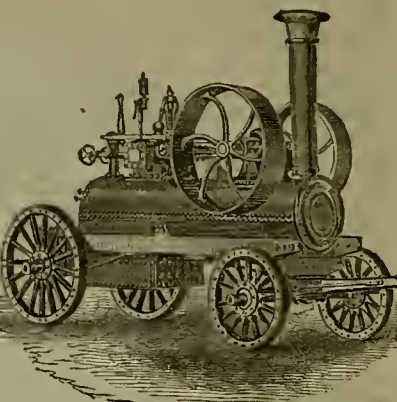
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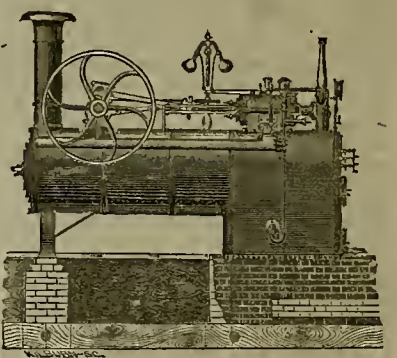
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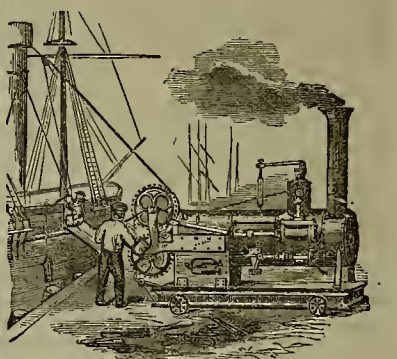
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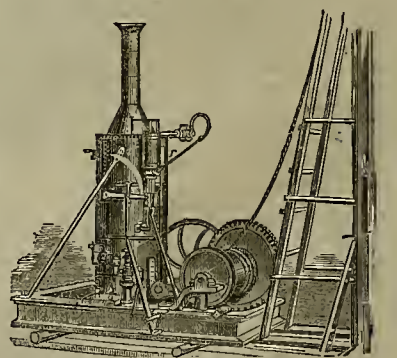
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THREE SIZES,

5, 7, and 10-Horse Power



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5 and 7-Horse Power,

ANNUAL REPORT OF THE Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 22, 1860, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD. \$750,000

II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS. \$1,051,420.37

III.—The Company has NO DEBTS.

IV.—The amount of Insurance effected during the year, and which remained in force December 31, 1865:

Fire. \$12,973,949

Marine. 251,403

The Company commenced underwriting Marine risks, August, 1865.

V.—This Company insures against the following risks, viz.: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.

Also, CARGOES, TRAILERS, COASTERS, PROFITS, and WAR RISKS, and ON ALL MARINE AND INLAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

J. HUNT, President.

A. J. RALSTON, Secretary.

San Francisco, January 19, 1866.

Louis McLane, Edward Martin, A. Hayward, W. C. Ralston, Chas. Mayne, T. L. Bayne, A. L. Forbes, Moses Ellis, Alex. Well, William Alvord, E. L. Goldstein, C. Meyer, Frederick Hillings, Wm. T. Coleman, J. D. Fry, Jonathan Hunt, John O. Carr, M. Rosenbaum, A. B. Forbes, Lloyd Tevis, H. H. Bucklow, Anson G. Siles, Geo. W. Beaver, T. Lemmen Meyer, Abm. Seligman, Adam Grant, Sacramento, L. B. Deuchler, Alphus Bull, Edgar Mills, Wm. Sherman, S. M. Wilson, G. W. Howe, Wm. Sachs, D. J. Oliver, C. T. Wheeler, Jas. De Fremery, William Schale, Marysville, John G. Bray, Morton Cheeseman, J. H. Jewett, Stockton, John B. Newton, H. Hansmann, T. R. Anthony, David Stern, D. W. C. Rice, Over Enderidge, D. O. Niles, E. W. Leonard, W. S. Ladd, J. G. Kellogg, E. W. Leonard, Jacob Kaum, G. H. Howard, S. Steinhart, Virginia, Nevada, Moses Heller, P. L. Weaver, Wm. Sagon, H. M. Newhall, W. H. Moore, Alfred Borel, G. T. Lawton, 15v13-1f

State of California, City and County of San Francisco, ss.

On this nineteenth day of January, A. D. one thousand eight hundred and sixty-six, personally appeared before me, H. S. HOMANS, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. RALSTON, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.

A. J. RALSTON.

Sworn and subscribed to before me, this 19th day of January, A. D. 1866.

H. S. HOMANS, Notary Public.

15v13-1f

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Also, just received, a large and well-selected invoice of HEINSTEIN'S CELEBRATED INSTRUMENTS, consisting in part of Amputating and Osteotomies, Pocket Cases, etc.

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Subscribe for it.—The large, illustrated sixty-four column weekly newspaper—the San Francisco Mining and Scientific Press—should be taken by every miner, prospector, and intelligent citizen throughout Colorado, as it gives a mint of most useful information to be gained no other way, on mining matters generally.—[Rocky Mountain News.

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price. These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes. Steam can be run up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises,) in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels, to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.

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RAILROAD TRACK-LAYING MACHINE.

We made a brief mention last week of a new invention for laying railroad track by machinery. According to the *Humboldt Register*, it has been carefully examined by the County Surveyor of Humboldt, and also by an experienced railroad engineer, both of whom are highly pleased with the machine, and think it not only practical, but just the thing needed. The principle on which it works is so simple that those gentlemen express astonishment that it has not before been thought of. A machine for laying railroad track may at first thought be deemed almost chimerical; but after reading the following description, which we clip from the *Humboldt Register*, and keeping in mind the vast and increasing amount of this description of labor that is being called for, one may well look upon it, if successful, as among the most valuable mechanical improvements of the age. The inventor is Mr. W. D. Robertson, of Star City, Humboldt county, Nevada:

The machine is supplied in front with a movable scraper, to cut down or fill up irregularities of ground after hand grading. Immediately behind the scraper is a feed box, into which the ties are thrown, and by rods worked by cams or eccentrics, are dropped at any given distance apart. This apparatus is similar to and as simple as the lever on a shot-pouch, for putting regular charges in a shot gun. Following the feed box, a battery of four stamps is arranged to drop at the same regular intervals that the rails are dropped; the stamps set the tie firmly in the ground, and retain it in position until revolving cutters—like those used in planing-machines—pass across and cut the tie to the grade to receive the rail; these cutters are adjustable, and may be made to cut the tie to any required depth. As soon as a sufficient number of the ties have been laid and cut, a rail, with a chair properly placed, is lowered to the ties and driven back into the chair on the preceding rail. A very simple (though difficult to explain without drawings) apparatus follows, and sets the spike in each tie; and they are driven home by one or more stamps following and each giving it a blow, but cannot fall so as to batter the head after it is driven. The ties and rails are supplied by hand cars on tracks on platform of main car, these cars running back on the cars of the supply train. The whole machinery is driven by gearing, belts, etc., from the wheels of the car, and the whole may be driven by a common locomotive—moving the supply train—or by a small engine on the construction engine.

The whole machinery is arranged on true mechanical principles, and there is no more reason to doubt the accurate working of all the parts of it, than there is to doubt the proportionate movements of these several bands of a watch. I had the honor of making the drawings for the Patent Office, and am thus familiar with its arrangements. It has been examined by several engineers and railroad men, and none doubt its final success.

Yours, etc.,
J. S. HENNING, Civil Engineer.

P. S. Since writing the above, Mr. R. has made some important improvements in the machine. They consist of an apparatus on the rear of the construction car for bending the rails for any given curve, and a little different arrangement of the machinery or gearing—making it more simple, lighter, and occupying less space than in the plans you have seen. I am now engaged in making a new drawing, and will send you a copy.

The machines is calculated to build road at this rate of quarter of a mile per hour, and may be covered by tent or oil-cloth and accompanied by sleeping and cooking cars, so as to run night or day or in any weather.

J. S. H.
THE SIERRA NEVADA MINE, Storey county, Nevada, has its new shaft down 510 feet. Drifting is now being done on the 300 and 500-foot levels for the ledge, which is supposed to be near at hand. We are informed that the work of development is going forward with all possible dispatch, and that the prospects are flattering.

CALIFORNIA INVENTIONS.—We have quite a number of California inventions on file for notice, which are crowded out this week; but for which we shall find room in our next issue. There appears to be unusual activity among inventors on the Pacific coast at the present time.

OTTO OF ROSES contains the same elements and in the same proportions, as coal gas.

HUNGERFORD'S IMPROVED CONCENTRATOR,

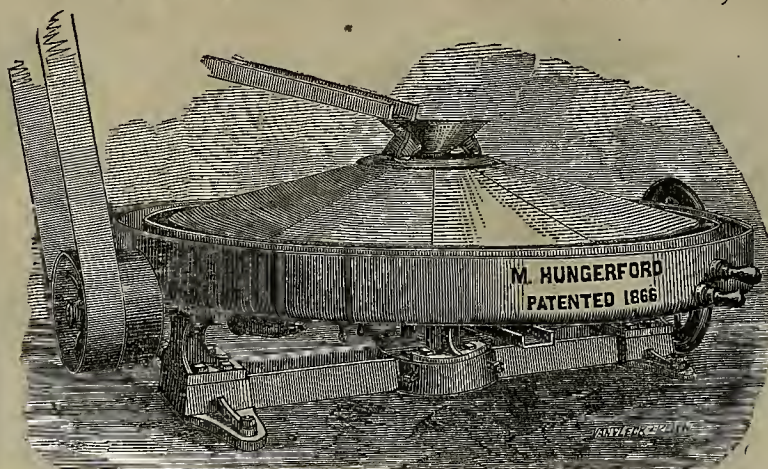


FIG. 1.

For Saving Gold, Sulphurets, Quicksilver, Etc.

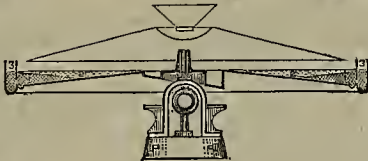


FIG. 2.

There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Mines are now abandoned, or, what is worse, paying assessments which, if the sulphurets were saved, would yield handsome dividends. Great difficulty, owing to the varied form and character of the sulphurets, has been experienced in devising a machine to separate them, and it is only by close and patient observation, persevering study and careful experiment, that any machine can be made or matured so as to save a high per centage of the sulphurets which are in the ore. No machine is so perfect as to save all; and the best is that which will save most with the least expenditure of time, money, and power. Many machines have been tried, and many abandoned; all of which have been unable to meet the requirement of the mining interest, as well as that now patented by Mr. Hungerford, which is an improvement on the well-known Hungerford & Fater Concentrator, with which his name is already so familiar.

The separating or concentrating action is obtained by centrifugal force and gravitation; the pulp being preserved by water in the proper condition for the operation, and the pan so constructed, mechanically, as to allow the centrifugal force and gravity to expend themselves to the best advantage in producing the separation, as well as to make the machine simple, compact, and easily kept in order.

Fig. No. 1 is a perspective view of the Concentrator while in operation, showing the general arrangement. Fig. No. 2 is a section through the centre of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery. Its operation is as follows: The pulp flows from the spout through the filter into the bowl at the top, from which it is distributed equally over the convex cover into the pan near its outer edge. The lightest sand is at once carried off with the overflowing water through the centre opening, and the sulphurets are allowed, from the motion given to the machine, to gravitate to the bottom toward the outer edge, forming an embankment all around the pan, as represented at 1, 1, Fig. 2. The lighter particles of the sand arrange themselves on the top at 2, 2, Fig. 2, from which they are being constantly washed away with the water flowing through the central opening. The sulphurets are, by the centrifugal motion of the machine, made to pass through small openings at the bottom, at intervals of a few inches around the circumference, through the inner wall of the pan to the circular trough, 3, 3, Fig. 2, where they come in contact with the mercury at the bottom, depositing the free metal, from which it is drawn at pleasure by an opening in the bottom, and the sulphurets, in the order of their density, by openings in the sides.

It will be observed that the sulphurets in the trough, 3, 3, are maintained at the same elevation as the sulphurets and overlying sand in the body of the pan. It will be further observed, that by no possible means can the sand in the latter pass to the former in such quantities as to form any considerable percentage of the amount saved. The advantages of this improved pan are continuous action, requiring no attention except to remove the receiving vessels as fast as they are filled from the openings shown on the right of Fig. 2, simplicity in construction, and durability and cheapness of cost.

The pan derives its motion from two eccentrics secured on a horizontal shaft passing across and below the centre of the pan and working between two pairs of adjustable wooden guide blocks or bearings. The eccentrics are so made as to bear equally on the wooden guide blocks in all positions while in motion; giving to the pan the most desirable motion for its purpose, and doing away with all complexity of rods, cranks, wooden frame, etc.

These pans are now being introduced into the best mills in the country. Reference to parties who have tested them can be had by applying to the manufacturers.

Those interested in mining, and who call at the Miners' Foundry to see the one which is there in operation, will have no reason to regret their visit.

San Francisco, June, 1866.

[3v13-1m]

M. HUNGERFORD,

Miners' Foundry, First Street.

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the *MINING AND SCIENTIFIC PRESS*, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & Co., Patent Agents.
San Francisco, May 1st, 1866.

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Important to Californians.—Many inventors have lately had their claims patented, and in some cases fatally delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The *MINING AND SCIENTIFIC PRESS* PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

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On the 10th, 18th and 30th of each month that has 30 days.

On the 10th, 18th and 30th of each month that has 31 days.

When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departures of 18th or 19th connect with French Trans-Atlantic Co's steamer for St. Nazaire, and English steamer for South America.

Departure of 10th connects with English steamer for Southampton, and P. & R. Co's steamer for Central America.

Departure of the 30th connects with English steamer for Panama, the port of the new mines.

The following Steamships will be dispatched on dates as given below:

September 10th—CONSTITUTION, Capt. E. S. Farnsworth Connecting with ARIZONA, Capt. Maury.

September 18th—COLORADO, Capt. J. T. Watkins. Connecting with HENRY CHANCEY, Capt. Gray.

September 29th—SACRAMENTO, Capt. J. M. Gavarly Connecting with OCEAN QUEEN, Capt. Weir.

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An experienced Surgeon on board. Medicine and attendance free.

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SAN FRANCISCO, SATURDAY, SEPTEMBER 8, 1866.

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THE SECTION OF THE BIG TREE FOR THE PARIS EXHIBITION.

Dr. Macgowan, who has recently returned from a visit to the "Big Trees," writes as follows to the Chairman of the Committee on the Paris Exhibition:

Mr. W. B. EWER—Dear Sir:—In compliance with the request of Mr. Hoag, Secretary of the State Agricultural Society, and yourself, I have conferred with Messrs. Sperry & Perry, the proprietors of the Big Tree Grove, Calaveras county, touching the preparation of a section of the "Original Big Tree" for the Paris Exhibition. It is a case in which *C'est le premier pas qui coule*; that is to say, a section once made, then the idea of dividing it into pieces, representing the States and Territories of the United States, can be easily carried out. But until a saw forty feet long can be made for the process of amputation, there does not seem any prospect of your being able to carry out the happy conception. The proprietors of the tree will offer every facility, including labor, for the prosecution of the undertaking; but they cannot commence the work without the implement that I have named; but as there is no lack of mechanical ingenuity in this city, and as the public spirit of our citizens is equal to any emergency, I doubt not that America's pride will be gratified by the display, in the French capital, of this wonder of the botanical kingdom. I should suppose that if it were announced that the contributions to the expense of this work might have the right to designate the institution to be its custodian, after the exhibition, the inducement would attract the attention "of well-to-do citizens." Yours truly,

D. J. MACGOWAN.

San Francisco, Sept. 7th, 1866.

RAPID TRAVELING.—An almost or quite unrivalled feat was recently performed on the Great Northern Railway, in England. In a case of great emergency an engine was driven from King's Cross to York, 191 miles, in three hours and forty-three minutes, a fraction over fifty-three miles an hour, deducting eight minutes stoppage for water at Newark. Better time may have been made for a few miles, but we doubt whether anything like 200 consecutive miles has ever been made in so short a time elsewhere.

FRANK A. HILL'S IMPROVED SEED SOWER.

We give annexed an illustration of a new and improved Seed Sower, for which application for letters patent have been made through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, by Frank A. Hill, of Marysville, Yuba county. The construction and operation of this device may be described as follows: The seed is put into the seed-box, A, and as the sower is drawn forward, the beveled gear attached to the inner central portion of the wheels, causes the revolution of the beveled pinion wheels, C, C, which, by a crank attachments, moves back and forth alternately, a set of horizontal plates in which the pins, shown by the light lines in the engraving, are fixed,



FRANK A. HILL'S IMPROVED SEED SOWER.

and by which the seed, with which the main box, A, is filled, is so disturbed as to fall through the holes in the bottom of the box, at e, e, e. These holes or valves may be opened or closed, and thus regulated to the size of the seed, and the quantity which it is desired to scatter by the levers, P, P, placed upon each side of the driver's box.

Through these, holes seed falls upon the scatter board, b, which, by its peculiar shape, spreads the same with great regularity. It is claimed by the inventor, that by the aid of this machine the ground can be seeded with great evenness and ease, as every person who can drive a team can manage the machine with the most perfect facility. The sower is followed by a revolving harrow, which covers the seed perfectly as fast as sown—the whole forming a complete machine for seeding and covering at one operation, as shown in the engraving.

It is one of the most encouraging signs of the times that inventors in California are turning their attention to devising improve-

ments in agricultural machinery. Several important inventions of this description have already been made, among which we may notice prominently several compressing machines for baling hay, wool, etc., two or three cultivators, and a grain elevator, which will be found quite fully described in another column of our present issue. Here in California, above all other places, where labor is high, our fields smooth, and the soil unusually productive, can stenni and horse-power be most advantageously substituted for human muscle and sinew. The introduction of machinery into farm labor is now almost universal in California; indeed, the farmer who would have his work done by hand, would here, by reason of the high prices of labor, fall rapidly behind his neighbor who takes advantage of the improved machinery of

NEW QUARTZ MILLS.—Among the new quartz mills ordered, in this city, within the past few days, we may enumerate a 40-stamp steam mill for the Gold Quarry Mining Co., of Attwood & Co., near Lincoln, and a first-class 30-stamp mill, with a 90-horse-power engine, for the Angels Quartz Mining Co., near Angels Camp, Calaveras county. Both these mills are in process of construction at the Union Foundry.

Peterson & Nickerson are building a 10-stamp mill, to be driven by a Jonval-Turbine wheel. Capt. G. D. Wadsworth is putting up a first-class 40-stamp steam mill, for a company whose name and location we have not learned. The machinery is to be delivered by railroad at Shingle Springs. J. H. Blood is erecting a pump and hoisting works, to be driven by steam, at his mines in Indian Valley. The iron work and castings for the three last named localities are being executed at the Miners' Foundry; which establishment has also just completed a fine cement crushing mill for the Oriental Mining Company, at Java Hill. This mill was to have been started the present week.

It would appear from the above that the construction of quartz mills has not yet ceased in California; neither is the supply of old mills, which have proved unfortunate in their location, sufficient to meet the demand for new localities. There are doubtless other orders for mills and mining machinery which have been given out to the various foundries in this city within the past few days, which have not come to our knowledge.

THE NEW PROCESS, as it has been called in some of the papers, by which the fifteen tons of rock was recently worked at the Pine Tree Mine, on the Mariposa estate, with, as is claimed, an extraordinary result as compared with the processes previously employed at that mill, is nothing more nor less than the "Ryerson Process," which was set up in this city and described in the MINING AND SCIENTIFIC PRESS some two years ago. We had intended to have alluded to this matter at considerable length in the present issue, but have been compelled to defer it till another time, probably next week. We have no doubt but that, with certain modifications, it might be made valuable, although it has failed in repeated instances in various parts of the State.

FOR SAVINO SULPHURTS.—Messrs. Goss & Lambard, of the Sacramento Iron Works, have recently furnished several of Hendy's Concentrators for the Golden Rule Mill, Tuolumne county, and the Enterprise Mill in Meadow Lake district, Nevada City.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Process for Treating Copper Ores.

EDITORS PRESS:—The greatest objection to the various methods of extracting copper from its ores by solution, is the great cost of iron for the precipitation, as a quantity is consumed nearly equal to the copper obtained. I have devised a process applicable to poor pyritous ores, of which there is an abundance in this country, by which this difficulty is obviated, and which, I think, possesses some other advantages over those in use. It is substantially as follows:

Crush the well cleaned ore through a screen of about thirty holes to the inch; roast in a reverberatory furnace, at a low heat, so as to produce the greatest possible quantity of sulphates; leach the roasted ore with solution of chloride of lime; the result will be a solution of chlorides of copper and iron, sulphate of lime remaining with the ore; oxide of copper will be dissolved by the action of the chloride of iron. The ore will probably still retain some copper; it must be re-roasted, this time dead, so as to convert all the copper present into oxide, and leached with the solution previously obtained, which must contain sufficient chloride of iron for the purpose. A deficiency of the latter may be remedied by means of common copperas treated with chloride of lime.

If well managed, a nearly pure solution of chloride of copper will be obtained, which must be treated with milk of lime, by which the copper will be precipitated as oxide, and the resulting solution of chloride of lime will be ready for another operation.

Variations of this process will readily suggest themselves. In some cases it may be best to roast the ore dead the first time, and treat it with chloride of iron procured from the sulphate by chloride of lime; or, after roasting dead, a quantity of crude pyrites may be added to the still hot ore, when sulphates will be formed in great abundance. If the sulphate of lime was marketable, it would be easy to obtain it separate from the ore. Poor ores of the oxides of copper should be mixed with pyrites and roasted, by which any calcareous matter will be converted into sulphate.

Where wood abounds close to the mine, I think ores of the class named might be economically worked in this way.

Since the above was written, I have seen, in "Lamborn's Treatise on the Metallurgy of Copper," an account of an almost precisely similar process, the invention of two Austrian chemists. The principal difference is, that the chloride of copper is formed in the furnace by means of salt. It is not stated that the chloride of lime is used to remove sulphuric acid (sulphate of soda), yet it must be so, or the oxide of copper would be obtained mixed with sulphate of lime. Thus, it would seem that my process has some advantage in not requiring the use of salt.

Should any one feel disposed to test this method, I shall be happy to give any further particulars in my power. DON CARLOS.

GLACIAL ACTION IN BEAR VALLEY.—The Nevada Gazette says that several observing gentlemen, who recently visited Bear Valley, near Henness Pass, discovered the most unmistakable indications of glacial action, going to show that that valley is the work of one of those huge plowshares of the Almighty by which He has wrought some of the most important topographical changes upon the earth's crust. This valley is between 4,000 and 5,000 feet above the level of the sea—the point at which, according to the theory of Agassiz, we may look for the most certain traces of glacial action.

PROPAGATING THE PEARL OYSTER.—A series of experiments are now being carried on by the Madras Government for the raising and propagating the pearl oyster. It is claimed that there is no more trouble in raising the pearl than the common oyster.

[Written for the Mining and Scientific Press.]

Amador County Mines.

BY OUR LADY CORRESPONDENT.

MESSRS. EDITORS:—Being a sojourner in this auriferous region and having completed my prospecting, I now take my leisure to draw conclusions from past observations. Troubled with neither "feet" nor "theories"—two mighty influences with men, warping their judgment and crowding truth aside—I consider my opinions valid. I have passed beyond the routine of female education and can translate the mining tongue, talk sulphuret and speculate upon *pay rock*. Wherever gold is visible it sticks to my fingers—the same affinity between flesh and blood and the precious metals, has made many men eminent. With these attributes I present myself as your "occasional," though not your "own" correspondent.

I know of no better stand-point than Jackson, "the seat of government" for Amador county, from which to behold Nature's handiwork in the line of "gold and gems;" and though the poet has said they do not satisfy the heart, I am sure they hold with tenacity the other two strands of strength possessed by the miner—head and hands! I have read of chalcidony, opals and rubies scattered over the face of nature; but I never thought so many were piled into one hill as they have at Mokelumne Hill! I shall have occasion to speak further of the opal mines before I close my letter.

The town of Jackson is situated almost directly over the great *Vetere Madre*, or Mother Lode of the auriferous belt of slates that skirt the western base of the Sierra Nevada for more than fifty miles. On this lode are situated the works of several mining companies, whose startling success has lately given new and higher life to California gold quartz mining. "All the world" knows about Haywood's mine—which has made a millionaire of its owner—at Sutter Village, four miles north of Jackson. Midway between these points is the Oacida mine, with a mill of forty stamps, and ore enough to keep them all busy. The Austrian mine is only one mile north, and though not fairly opened, is supposed to rank high in the category of rich claims. The renowned Coney Lode is in the edge of the town, and though the rock all pays handsomely, they recently struck an immense pocket, the value of which I have not ascertained. It is astonishing how Dame Nature allows her pets to poke their picks into her *pockets* whenever they can find one in the *seams* of her outer garments, and many a son of toil has found the pot of gold without going to the end of the rainbow! These are some of the prominent, but do not include a tithe of the mines here.

What student of Nature and Nature's laws can conscientiously sing—

"Above, below, where'er I gaze,
Thy guiding finger, Lord, I view!"

In a small hotel in an interior town, in the middle of August? Beside, what practical miner is content to remain on his oars (*ores*) before examining everything within his reach? So we thought, one morning, as the sun arose and the earth seemed a furnace to which the heat was being applied. Our thoughts winged off to "primeval forests," where cool springs gush from granite rocks, and the din of industry irreverently breaks in upon the solemn stillness of the ancient mountains. So we commenced to journey, bodily, where our thoughts had been, eighteen miles distant in an easterly direction, over rough roads, past fertile fields, to a point three miles from Volcano, where Meader & Ambler have purchased a mine, among the granite rocks and pine trees—those symbols of strength and energy—built a mill, made roads and erected dwellings. The latter gentleman applies his own inventions to his mining enterprises. In all respects it looks as though they meant to make the most of the three score years and ten allotted to them, and we trust Heaven will grant them a lease of a few more years for happy reflection! The mill is of five stamps, driven by water, which is supplied from the South Fork of Sutter Creek. The vein is two miles from

the mill, composed of sulphurets encased in granite walls, and yields from \$150 to \$300 per ton. The sulphurets are oxidized with the aid of chemicals in two weeks, and they claim to get all but two per cent. of the gold. Their grinders differ from others in this respect—they discharge as they grind.

Volcano is another place where the student of geology and mineralogy can fill his pockets with specimens worthy of his cabinet—such as geodes, asbestos and serpentine. The first is a round stone, containing a cavity filled with crystals or clustered nodules of silicious matter. The second, asbestos, has fibers which were woven into cloth by the ancients, which the good housewife never had to wash on Monday—the process of cleansing being simply to throw the clothes into the fire; being non-combustible, fire had no other effect than to purify. The third, serpentine, is hydrous silicate of magnesia, usually shaded with chromic iron.

The opal mine at Mokelumne Hill is certainly an object of scientific interest. The opals are found imbedded in a stratum nearly horizontal toward the summit of a ridge of volcanic matter, known as Stockton Hill. The stratum is from one inch to six inches in width. It consists of yellowish ferruginous, scoriaceous matter, crumbling before the pick like dried clay. In this is imbedded roundish nodules, covered with a chalk-like concretion, which, when broken, exhibit the chatoyant light of the opal. They vary in weight from a few grains to two or three ounces each. A miner, with little labor, can extract one thousand per day. Of this number, ten per cent., the proprietors say, will probably be good gems. The stratum has been opened at six different points. Three or four tunnels have been run into the hill a distance of from fifty to one hundred feet each. Wherever a moist spot is encountered the stones are worthless, being soft and friable, and almost wholly converted into chalk-like matter. Several varieties of stones are found, as precious opal, fire opal, the common milky opal, menolite, etc. The mine is claimed and worked by a company consisting mostly of Frenchmen. I was informed they had sent 25,000 stones to the city of Munich, 5,000 to Paris, and 1,000 to New York, to test their value in the gem market.

While on the subject of gems, I will mention the fact of diamonds having been found at Volcano, a distance of but a few miles from the opal deposits. A fine deposit of chalcidony is found on the opposite side of Mokelumne Hill.

Jackson, August 23, 1866.

THE LAMPHEAR AND McDONALD MINE.—A correspondent from Mokelumne Hill, furnishes us with a lengthy communication with regard to the above-named mine, which we are obliged to condense, as follows: The mine is located at the head of Spring Gulch, a tributary of Chile Gulch, one mile southeast of Mokelumne Hill. It was originally located by Mr. McDonald and others, who subsequently added to the company Mr. Lamphear, for the purpose of procuring funds to open the mine. An incline was sunk to the depth of sixty feet, an arastra with a 50-foot water wheel, and hoisting works, were put up and 100 tons of rock crushed, which yielded \$15 to the ton, but did not pay expenses; 500 tons more rock, taken out and crushed at a neighboring cement stamp mill, 200 tons of which were first put through, yielding \$5.50 per ton. Another lot of 100 tons yielded \$10 per ton. This, though not up to the mark, gave better satisfaction; but another lot of 200 tons was crushed, yielding \$6.10. Operations were thereupon suspended, although the company have the fullest confidence in the value of their mine. With such results as given above, from a mill constructed for working cement only, it appears to us the company ought to feel sufficiently encouraged to go on and erect a class of machinery proper for the work they have in hand.

HEALTHFUL EFFECTS OF GREAT FIRES.—It is stated as a singular effect of the late Portland fire, that while previous to it several burials a day took place from one of the most unhealthy wards in the city, none have occurred since the conflagration, from that locality. There would be nothing very singular in the above, if the "unhealthy ward" was one situated in the midst of the "burial district."

PITCH AND ROSIN.—The shipments of these articles from Oroville average about fifty tons per month.

[Written for the Mining and Scientific Press.]

From Sierra County.

BY AN INDEPENDENT CONTRIBUTOR.

[Continued from page 139.]

EDITORS PRESS:—From the summit of the divide, looking in a northerly direction, the Downieville Buttes are seen with their pinacled and towering peaks, apparently within a stone's throw, but, in reality, some three miles distant, "as the bird flies," the deep yawning gulf of the gorge of the South Fork of the North Fork of the Yuba River intervening; but as we do not happen to be of the feathered tribe, but of the *genus homo*, we are forced to follow the winding sinuosities of a mountain trail down its steep banks for some three miles to the river, which we forded, and on its northerly bank struck "the Yuba Gap Wagon Road," which, to the disgrace of Sierra county, is yet in an unfinished state, owing, as I understand, to petty jealousies existing between the northern and southern portions of the county—(this is an important enterprise, and has served materially to retard the developments of its mineral resources). Following up the northerly banks of the river, in an easterly direction, through a "city" of half a dozen scattering houses (Sierra City), and past the Downieville Buttes (which, from its interesting character as a mineral district, I will leave for special note), we reach the eastern boundary of the schistose formation, at its junction with the igneous belt, consisting of granites, porphyries, traps, etc., etc., which form a powerful belt from ten to twelve miles in width, and traceable, longitudinally, for the entire distance of the Sierra range. The formations here we find highly mineralized, the veins powerful, and, as a rule, cutting the stratification, denoting true fissures. Here the Yuba forks again. Following its northerly branch, the formation is found to alternate from a feldspathic granite to porphyritic, and by imperceptible change to anygdaloidal traps, basalts, and a dark colored, highly crystallized, hornblende trap, which for some three miles show no indication of containing metalliferous veins, although at other points metalliferous concentrations are likely to occur. At a point near Howard's ranch I notice the formations change, and feldspathic granite again intervenes, elvan courses are frequent and bold, subordinate to the main granitic masses, metalliferous quartz veins are more abundant, cutting the stratifications, the debris of which gives evidence of considerable richness in gold, and the veins are highly mineralized.

A noticeable feature in this formation is that the various ores of copper have replaced the iron ores, which are invariably found accompanying the auriferous veins found in the metamorphosed schists, adjoining the igneous rocks. Rare ores of molybdenum also occur, while iron is seldom seen. Two miles from Howard's ranch, in a southerly direction, parallel with the formation, and in a constantly occurring and increasing cupriferous indications, denoting a concentration of copper deposits, we find

THE SIERRA BUTTES COPPER MINE,

A recent discovery, which gives promise of proving to be a vein of considerable value, indicated in the croppings by a broad band of goosana, a mixture of quartzose matter, and an insoluble hydrated oxide of iron, with free gold, the copper having passed off by the action of water in the form of a sulphate. This goosana does not extend to any considerable depth, the ores being remarkably free from iron in this combination; the pyrites, with associate ores, are found undecomposed but a short distance below the croppings.

This lode, from its strong resemblance, in mineralogical and geological features, to the cupriferous veins, worked in the vicinity of Copiapo, Chili, which have yielded munificently for years, and are still reliable properties, is worthy of more than a passing note, and as it promises to be the pioneer of an entirely new and interesting cupriferous region, I will defer a more detailed description until my next.

August 30, 1866.

VIAJADOR.

Mechanical.

FORCE OF FALLING WATER.—The power communicated to water by falling from a great height is illustrated at Orinson, in France. A turbine used by a flour mill in that locality, is supplied by water which passes through an opening only six-tenths of an inch wide and about three-tenths high, but it has a vertical pressure due to a height of more than 354 feet, and a velocity, in consequence, of 151 feet per second. It escapes with a hissing noise that can be heard at a considerable distance, and causes the turbine, which moves on a horizontal axis, to make from 300 to 350 revolutions per minute.

AMERICAN MILITARY INVENTIONS.—Russia takes a very great interest in the improvements in military science lately made in this country, and has sent an officer of the Royal Russian Mining Engineers—Capt. Kholostoff by name—on a tour of inspection throughout the United States, with instructions to make monthly reports to the Home Government. He has visited the armory at Rock Island, Illinois, and lately witnessed the casting of the 20-inch gun for the Paritan, at Pittsburgh. At present he is in St. Louis, and it is said has arranged with the inventor of the Rodman gun to furnish some of that kind of artillery to the Russian government.

WATER SHOES.—A Norwegian, who is acting as hagrage-master on the Hudson River Railroad, N. Y., offers to go against any boat which may be produced, for five or ten miles, and for a sum of from \$5,000 to \$6,000. He will use what he denominates "water shoes," each shoe twelve feet in length and about six inches in width. In each shoe is an opening of about the size and shape of his foot, and both shoes are fastened together at a proper distance apart, and both sitting on the surface, drawing scarcely an eighth of an inch of water, being perfectly air-tight. He will stand up in these shoes, and, using a paddle, striking the water, first on one side then on the other, will go through the contest. He is confident that with this contrivance he can beat any four-naired crew in the United States.

OIL STONE.—The recent discovery of a very good quality of oil stone, by Charles H. Eaton and William C. Holmes, near the Merced river, between Horse Bend and Don Pedro Bar, is attracting a good deal of attention. Barbers and others competent to judge say that the stone is superior to any other kind now in use. Since the first discovery, the mine or quarry has been opened and found to be very extensive. The material used for "oil stones" is a variety of slate.

WHEELS OF RAILWAY CARRIAGES.—A very important improvement in the wheels of railway carriages has been invented, which consists in giving a free motion to the axle independently of the carriage and the wheels. In this wheel the axle is not fixed, but is free to rotate independently of the wheel as of the carriage. The entire absence of retardation by the *biting* of the axle, and any amount of friction is dispensed with.

THE DEAD STROKE POWER HAMMER.—One of these hammers, of sixty pounds weight, with 12-inch stroke, gives a blow equal to 20,000 pounds, and, it is said, is capable of forging down cast steel from three inch, or wrought iron from four and a half inch square. This hammer was patented in February last.

TENACITY OF BOILER PLATES.—The tenacity of good wrought iron boiler plates has been stated at 51,000 pounds per square inch. That of a double-riveted joint, per square inch of the iron left between the rivet holes, is the same; that of a single riveted joint, somewhat less, as the tension is not uniformly distributed.

CIRCULAR HORSE POWERS.—In working a horse power, the animal works less advantageously than in drawing a carriage along a straight track. Experiments have proven that the best possible results may be realized with a horse power, when the diameter of the circular track in which the horse walks is less than about forty feet.

NEW METHOD OF OBTAINING AND APPLYING STEAM POWER.—An invention relating to a novel method of applying the motive power of steam to the various useful purposes to which such power is or may be applicable, has been patented by Messrs. W. T. Cole and H. S. Swift, of London. According to the ordinary method of using the force of steam, the well-known cylinder and piston are employed, the action being reciprocating and being converted into rotary motion by the agency of the crank; but according to this invention both cylinder and piston are dispensed with, and a direct rotary motion is obtained from the power or pressure of steam. "We propose," say the patentees, "to set on suitable foundations and standards a hollow shaft in communication with a boiler; this shaft is a fixture, but it is continued to a fly-wheel by a second hollow shaft, secured to the former one by means of a steam-tight stuffing-box. This second shaft, therefore, is capable of revolving round the fixed shaft. Now at the extremity of the moving shaft we propose to place a fly-wheel, the spokes and periphery of which may be made hollow; such spokes or tubes being in continuation with the shaft in order that the steam may traverse them. The spokes, tubes or periphery of the fly-wheel are terminated by tubular outlets set at right angles to the radii of the wheel. Each of these openings or outlets is provided with a throttle valve, consisting of iron plates and india rubber, in order to throttle the exhaust ports and decrease the area of the escape of steam. These valves are controlled by means of a hand-lever in connection with a sliding ring on the shaft, such ring pushing (nearer to or farther from the fly-wheel) a second sliding ring held by clutches so as to turn with the shaft. The latter ring is connected to toggled arms joined to the valves; it, therefore, follows that as the ring is moved the toggled joints will compress or open the valves as required. The fly-wheel is to be enclosed in a cylindrical steam-tight chamber, in connection with a condenser or steam-pipe, and the steam-shaft and driving-shaft are to pass through the chamber by means of stuffing boxes. The steam issuing from the periphery of the fly-wheel or from the tubes causes a reaction upon the interior thereof, and thus a direct rotary motion is effected from the fly-wheel itself, thus expending the power at the greatest leverage or furthest from the center of the shaft, which is the center of motion."

NEW MODE FOR GENERATING STEAM.—Letters patent have been granted to Mr. Matthew P. W. Boulton, of Tew Park, Oxfordshire, Eng., for "improvements in generating steam and heating steam and aeriform fluids." Steam passing from a boiler is superheated, and the superheated steam is caused to pass through the water in the boiler, such a force being applied to it by means of a propeller or forcing apparatus as is requisite to force it through the water. The heated steam rising through the water generates steam. The heated steam may be caused to rise through the water in numerous small streams, it may pass through the interstices of movable bodies, such as balls, which may float or may be suspended in the water, or may find their own position by weight, it may pass through narrow passages. To prevent these passages from being choked by deposit, they may be kept clear by a tooth or piece moved through the passage by the engine, either by a rectilinear or circular movement. The steam may be caused to rise through the water in the boiler in a zigzag course by means of plates or bodies suitably disposed. A portion of the heated steam may be forced through the water, while a portion of it is caused to mix with the steam above the water, in which steam are suspended particles of water in a state of spray or minute division. The heated steam mixing with this watery steam converts the particles of water held by it in suspension into steam. Again, the heated steam may be caused to pass over the surface of the water in the boiler, so as to come in contact with a large portion of this surface, communicating heat to the water and generating steam in this way. These and other different methods may be combined in various manners.

IRON VS. WOODEN SLEEPERS FOR RAILROADS.—The Madras Railway company have been experimenting on the relative costs of wood and iron for railway sleepers. It has been found that for a series of years the wooden sleepers have averaged a cost of \$169 per mile, while the iron ones have cost but \$74 per mile. The advantage of iron over wood has been made so apparent, that the company has resolved to use iron hereafter altogether.

BOILER INCrustATIONS.—It is said that finely pulverized clay, diffused throughout the water in boilers, has a tendency to put a stop to incrustations. The clay particles prevent the consolidation of deposits, which assume a muddy form, easy to remove.

Scientific Miscellany.

THE MISSISSIPPI DRYING UP.—As improbable and alarming as the announcement may appear, it is nevertheless asserted, and believed by both practical and scientific men, that the "Father of Waters," is rapidly diminishing in volume, by reason of the country about its tributaries being settled and denuded of its forest covering, which has hitherto prevented the great excess of evaporation which is now occurring. Navigation is already obstructed to some extent by sand bars in places where they were formerly unknown. The "June rise" has now almost entirely disappeared. Such an occurrence forty years ago would have been looked upon as a terrible calamity in prospect; but in these days of railroads and steam engines, the loss of a river, except for purposes of irrigation, is a matter of but little national consequence. The time will eventually come, when the produce of the "Great Northwest" must find its way to the Atlantic seaboard by rail, instead of to New Orleans by steamboat.

INSTRUMENT FOR MEASURING ACTION OF THE HEART.—Two years ago, M. Marey, known to experimental physiologists for his dynamometer to elucidate the mechanical and physical character of the circulation, invented an instrument called the sphygmograph, to register the form of the movement in the blood of the arteries. Recently this instrument has been found to be very useful and trustworthy in indicating variations in circulation dependent on disease. It has been applied to detect diseases of the heart, which it does by registering the pulse trace characteristic of each disease. Hitherto morbid changes in the great arteries, aneurisms, etc., have baffled the skill of physicians to detect and define, but they can be discovered by means of the sphygmograph, by the modification they induce in the characters of pulsation.

MINUTENESS OF SPECTRUM ANALYSIS.—It is well known to all who have paid attention to the new method of "spectrum analysis" that bodies, in order to be treated by this process are usually burned, or brought to incandescent vapor, in order to give their characteristic spectra; but this is not true of all bodies. So minute is this process that one-fourth of a single red globule of blood, containing iron, will give its characteristic spectra, seen by the micro-spectroscope, without burning. One of the discoveries of spectrum analysis claims to detect the 1-800,000 of a grain of sodium in a state of vapor, but the amount of iron in this 16-1,000 of an inch fraction of a blood globule, must really be far less than that, yet its characteristics are very distinct in the micro-spectroscope. Indeed the microscope as far transcends the ordinary means of spectrum analysis as it does unaided vision.

AGASSIZ, who has recently returned from his exploring expedition to Brazil, has been absent a little over one year, during which time he has made many important discoveries in geology and natural history, finding abundant evidence to establish his favorite theory of glacial action, and adding to the classifications of the animal kingdom several hundred specimens hitherto unknown or undescribed. He will at once begin the preparation of a scientific memoir, embracing the results of his investigations, and a work of popular character from his pen, entitled "Travels in Brazil," is already announced by Ticknor & Fields for publication in the fall.

FOR PRESERVING HAY.—It would be a desirable thing for the farmer if he could preserve, at least a portion of his grass green instead of curing it by a drying process. A method of accomplishing this purpose has been suggested as follows: Dig a cellar and build within it a chamber to hold grass. Fill the space around the outside with snow during the winter, and in the summer when you cut your grass, place it immediately within the refrigerated chamber. It is calculated that it will be preserved on the same principle that fruits are thus kept in refrigerating houses. We are not aware, however, that the experiment has been tried.

THE ORIGIN OF IRON ORES.—At a late meeting of the Manchester (Eng.) Geological Society, the President stated that some years ago he wrote a paper on the origin of iron ores of Furness. He previously went to look at the district, and found the iron lying in holes in the limestone. The great deposit of Lindale Moor, which had been worked, he believed, for centuries, was really a valley excavated out of the limestone, and then filled with iron ore. As to the age of the ore, his own opinion was that it was since the deposition of the limestone, and before the formation of the Permian rocks above it. The holes might have been formed either by waters charged with carbonic acid—or washed out by the sea. Some years since, Mr. Bolton, a gentleman living near Ulverstone, showed him a remarkable fossil, which seemed to mark the age of these beds of hematite iron ore, and which caused him to believe that they were all formed during the deposition of our coal measures. His reason for dating the age at which these beds occurred arose from the fossil which Mr. Bolton showed him—a good *Sigillaria vascularis*, displaying good internal structure and external characters, all of which had been converted into peroxide of iron. Every portion was preserved in this peroxide of iron. No doubt that plant grew during the carboniferous epoch, and was afterwards converted into peroxide of iron. The origin of iron ores was now generally attributed to volcanoes. Some years ago a rich bed of hematite ore was found in the neighborhood of Mt. Vesuvius. It came out of the volcano as a chloride of iron, and was immediately converted into a peroxide of iron. The generally received opinion now was that erosions had been made in the limestone during the carboniferous epoch, and afterwards filled with iron before the Permian sandstones had been deposited over it.

INDIAN INK.—Indian ink is a black pigment brought from China and Japan, which, on being rubbed with water, dissolves, and forms a substance resembling ink, but of consistency well adapted for working with a camel hair or sable pencil, on which it is much used as a color in miniature painting, and in all drawings in *chiaro oscuro*, or where the effect is produced from light and shade only. The preparation of Indian ink, as well as compositions used by the Chinese in painting, is not based on any reliable authority, being shrouded in any considerable quantity of "trade haze and secret fog." The composition appears by experiment to be the coal of fish-bones, or some vegetable substance mixed with isinglass size, or other size in conjunction with honey or sugar, to prevent its cracking. A good Indian ink may be made from the fine soot from the flame of a lamp or candle, received and collected by holding a plate over it. Mix this with the size of parchment, and it will be found to give a good deep color. Burnt rice has been considered by some a principal ingredient in the genuine Indian ink, with the addition of perfumes or other substances not essential to its qualities as an ink.

ORIGIN OF THE DIAMOND.—M. de Chancourtois, in a recent paper to the French Academy, says that the diamond is derived from hydro-carbureted emanations, just as sulphur is derived from hydrosulphureted ones. He contends that the diamond is separated by the rapid combustion of a carbureted hydrogen, the carbon of which is only partly oxidized with the whole of the hydrogen, while the remainder of the carbon that has escaped oxidation is deposited in crystals, that is, in the state of diamond.

A scientific way of lighting pipes and cigars has been devised in Paris. It consists of a chemically prepared powder, which may be kept in a small tin can with a narrow orifice. A small quantity of this powder placed upon the cigar and then breathed upon, will instantly take fire.

The microscope reveals the fact that a little black speck of potato rot the size of a pin head contains about two hundred ferocious animals of the beetle form and shape, biting and clawing each other most savagely.

THE DIAMONDS EXCEED.—The crystallized protoxide of copper, recently found in crystals, transparent to red light, in Chessy (Rhône), far exceeds in refractory power the diamond. H. M. Fizeau has recently shown that both expand under heat.

EFFECT OF THE PERFUME OF FLOWERS.—The presence of the perfume of lavender in the air increases its power of absorption of heat sixty times, and anise seed 372 times; hence the perfume arising from a bed of flowers increases the temperature of the air around them.

It is said that a little island has been discovered in a supposed sea in the plateau Mare.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, September 1.

5 shs Chollar-Potosi at 120 per foot, s 60.
 1 sh Chollar-Potosi at 124 pr ft, s 3.
 2 shs Chollar-Potosi at 123 per foot, s 3.
 7 shs Chollar-Potosi at 125 per foot, s 3.
 25 shs Chollar-Potosi at 125 per foot.
 1 sh Yellow Jacket at 722½ per foot, s 3.
 1 sh Yellow Jacket at 722½ per foot, s 3.
 1 sh Yellow Jacket at 730 per foot, s 3.
 1 sh Yellow Jacket at 722½ per foot.
 2 shs Yellow Jacket at 730 per foot.
 1 shs Yellow Jacket at 727½ per foot.
 1 sh Yellow Jacket at 740 per foot, s 30.
 1 shs Yellow Jacket at 732½ per foot s 3.
 1 sh Yellow Jacket at 735 per foot, s 5.
 2 shs Yellow Jacket at 735 per foot, s 5.
 5 shs Yellow Jacket at 735 per foot, s 30.
 1 sh Yellow Jacket at 730 per foot, s 30.
 12 shs Ophir at 210 per foot, s 30.
 48 shs Ophir at 200 per foot.
 12 shs Ophir at 200 per foot, s 30.
 36 shs Ophir at 197½ per foot.
 12 shs Ophir at 195 per ft, s 30.
 12 shs Ophir at 192½ per foot, s 30.
 8 shs Crown Point at 90 per foot, s 3.
 4 shs Crown Point at 900 per foot, b 5.
 8 shs Crown Point at 900 per foot.
 2 shs Savage at 1075 per foot, s 3.
 1 sh Savage at 1070 per foot, s 3.
 1 sh Savage at 1090 per foot, s 30.
 1 sh Belcher at 115 per foot.
 1 shs Belcher at 112½ per foot s 30.
 2 shs Belcher at 115 per foot, s 30.
 10 shs Imperial at 96 per share, s 30.
 5 shs Imperial at 96½ per share.
 20 shs De Soto at 3 per share.
 5 shs Sierra Nevada at 2½ per share.
 5 shs Confidence at 45 per share, s 30.
 5 shs Overman at 11½ per share.
 5 shs Overman at 11 per share, s 30.
 10 shs Overman at 12 per share.
 20 shs Overman at 12 per share, s 10.
 15 shs Pacific Insurance at 182 per cent.
 \$ 1,000 U S 7-30's, Aug. issue, at 76½c.
 Amount of sales.....\$ 37,841 00

Monday, September 3.

4 shs Yellow Jacket at 750 per foot s 3.
 1 sh Yellow Jacket at 750 per foot, s 30.
 1 shs Yellow Jacket at 760 per foot.
 4 shs Yellow Jacket at 765 per foot.
 5 shs Yellow Jacket at 770 per foot.
 5 shs Yellow Jacket at 780 per foot, s 30.
 3 shs Yellow Jacket at 767½ per foot, s 3.
 1 sh Yellow Jacket at 770 per foot, b 3.
 8 shs Yellow Jacket at 767½ per foot.
 5 shs Yellow Jacket at 760 per ft, s 30.
 1 sh Yellow Jacket at 770 per foot b 30.
 1 sh Yellow Jacket at 768 per foot, e.
 3 shs Yellow Jacket at 772½ per foot, b 30.
 1 sh Yellow Jacket at 768½ per foot.
 24 shs Ophir at 190 per foot.
 72 shs Ophir at 192½ per foot, b 30.
 24 shs Ophir at 187 per foot.
 1 sh Savage at 1090 per foot.
 1 sh Savage at 1100 per foot.
 10 shs Overman at 15 per share, s 3.
 5 shs Overman at 15 per share.
 5 shs Overman at 14 per share s 30.
 5 shs Overman at 13½ per share.
 10 shs Overman at 13 per foot, s 3.
 10 shs De Soto at 3 per share.

AFTERNOON SESSION.

60 shs Ophir at 190 per foot, s 30.
 12 shs Ophir at 195 per foot, b 30.
 48 shs Ophir at 190 per foot.
 1 sh Savage at 1125 per foot, s 3.
 1 sh Savage at 1140 per foot, b 30.
 1 sh Yellow Jacket at 775 per foot.
 1 sh Yellow Jacket at 785 per foot b 30.
 1 sh Yellow Jacket at 780 per ft., b 3.
 5 shs Yellow Jacket at 780 per foot.
 1 sh Yellow Jacket at 780 per foot b 2.
 1 sh Yellow Jacket at 778 per foot.
 1 sh Yellow Jacket at 770 per foot.
 2 shs Yellow Jacket at 765 per ft, s 60.
 1 sh Yellow Jacket at 785 per foot b 3.
 2 shs Yellow Jacket at 785 per foot.
 3 shs Yellow Jacket at 791 per foot.
 2 shs Yellow Jacket at 790 per ft, s 30.
 1 sh Yellow Jacket at 790 per foot, s 3.
 5 shs Yellow Jacket at 790 per foot s 60.
 5 shs Yellow Jacket at 790 per foot, b 3.
 1 shs Yellow Jacket at 787½ per foot.
 1 sh Chollar-Potosi at 130 per foot.
 1 sh Chollar-Potosi at 132½ per foot.
 5 shs Chollar-Potosi at 130 per foot, s 3.
 4 shs Chollar-Potosi at 133 pr foot.
 5 shs Confidence at 52½ per share.
 5 shs Confidence at 52½ per sh, b 30.
 Amount of sales.....\$ 74,995 00

Tuesday, September 4.

12 shs Ophir at 192½ per foot, b 30.
 24 shs Ophir at 195 per foot, s 3.
 12 shs Ophir at 195 per foot, s 30.
 2 shs Savage at 1115 per foot.
 1 sh Savage at 1142 per foot, s 30.
 1 sh Savage at 1150 per foot, b 3.
 1 sh Savage at 1130 per foot.
 2 shs Belcher at 132½ per foot, s 3.
 2 shs Belcher at 130 per foot s 30.
 6 shs Belcher at 130 per foot, b 30.
 1 sh Belcher at 127½ per foot.
 2 shs Chollar-Potosi at 133 per foot.
 7 shs Chollar-Potosi at 130 per foot.
 1 sh Yellow Jacket at 780 per foot c.
 3 shs Yellow Jacket at 780 per ft, s 3.
 1 sh Yellow Jacket at 780 per foot, s 15.
 1 shs Yellow Jacket at 780 per foot.
 1 sh Yellow Jacket at 790 per foot, b 30.
 1 sh Yellow Jacket at 779 pr ft, s 3.
 1 sh Yellow Jacket at 778 per foot, b 3.
 1 sh Yellow Jacket at 775 per foot, s 30.
 5 shs Yellow Jacket at 751 per ft, s 60.
 1 sh Yellow Jacket at 775 per foot c.
 1 sh Yellow Jacket at 775 per ft.
 1 sh Yellow Jacket at 775 per ft b 3.
 45 shs Overman at 14 per share.
 10 shs Overman at 13½ per share.
 2 shs Overman at 13½ per share.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, Sept. 8th, 1866.

Monetary affairs continue to exhibit the same features noted for some time past. A good demand prevails for legitimate purposes, but the supply of capital is abundant and acceptable paper is readily taken in Bank at 1@1½ cent per month, with occasional transactions at 1½ cent.

The San Francisco Assaying and Refining Works are again in active operation, all the required improvements having been made to their melting and refining establishment on Brannan street.

The United States Sub-Treasurer, in this city, has sent East for Government account, since January last, \$8,000,000—which figures are not embraced in the specie exports on mercantile account.

The financial affairs in London continue to improve, and late telegraphic advices state that the Bank of England has reduced its rate of discount to 5 cent per annum.

The receipts of treasure from domestic sources have amounted to about \$1,000,000 since the first instant. The yield of the silver mines of Nevada, as well as that of the quartz mines of this State, show no abatement.

There is very little demand for bullion for shipping purposes, the market being well supplied with both gold and silver bars. The former are offered at 830@840, and silver bars are selling at about 2 cent discount.

Currency bills on the Atlantic cities are offered at 40 cent premium on gold. Sight Drafts, payable in gold, are worth about 2½ cent premium, and Telegraphic Transfers are made at 5½ cent premium. Sterling Exchange ranges from 48½ to 49d. for best bankers' bills.

Legal Tenders are dull and inactive this week, and small sales were made at 72 and 72½ cents—closing yesterday at 72½. Our latest telegraphic advices from New York quote Gold at 146, and Sterling at 106 nominal.

The Mining Share Market, during the past week, has manifested considerable activity, and several leading stocks were dealt in to a considerable extent. The tendency of quotations is upward, and most shares are now selling at enhanced rates from prices ruling early in the week.

City Stocks have been in more request the past week than for some time past, insurance shares taking the lead. Pacific Insurance sold at \$182 per share; National, at \$77½@77¾, and Union at \$125. Merchants' Mutual Marine is held at \$300 under the change to \$500 to incorporate share, of which 60 cent is now paid up. One hundred shares of the North Beach and Mission Railroad Company, sold at \$45 per share. Spring Valley Water Company is now held at \$64. This Company have declared a dividend of ½ cent per month on the capital stock payable on and after Monday next, the 10th inst. California Steam Navigation Company was sold at 75 cent.

Hale & Norcross is still firmly held, and no sales transpired in the Board the past week. It is now quoted at \$1,650 bid, \$1,750 asked. Various portions of the mine are looking exceedingly well, but no new developments have been made recently.

Savage steadily advanced from \$1,075, to \$1,130, b 30, receded to \$1,115, then sold at \$1,135, closing yesterday at \$1,160 bid. During

the week ending Sept. 1st, 1,011 tons of ore were extracted, and 931 tons shipped to mills; leaving 626 tons on hand. The approximate value of the above 1,011 tons is estimated at \$45,145, cost of extraction \$8,736, and reduction \$23,414; leaving an estimated profit of \$23,014. For the month of August the actual profits of the mine are stated to be about \$100,000. In making the above estimate 2d-class ore is valued at \$55 per ton, and 3d-class at \$35. The south drift, in the Curtis shaft, is penetrating unprofitable spots of ore. The Superintendent's report says, "the ground is hard both with us and the Hale & Norcross, so that it will probably take three weeks to connect." The Atchison Mill now reduces about 45 tons of ore per day.

Crown Point has receded from our last quotations, and a few feet changed hands at \$900 and \$880, closing yesterday at \$880. For the week ending Sept. 2d, 605 tons of ore were extracted from the mine. The drift south, on the 300-foot level, and the north, middle, and south winzes, are looking well. The drift from the 400-foot station is now in 213 feet, still leaving 200 feet to penetrate before striking the vein. The suit of the Kentucky vs. this Company has been settled for the sum of \$20,000.

Gould & Curry has met small sales the past week, and at the close is held at \$710 per foot. The official figures give the receipts of bullion for the month of August at \$134,395 23. The incline from the 2d to the 4th station has not yet been completed, and not until then will a thorough search be instituted to ascertain the quantity of ore in the rich seam lately passed through.

Yellow Jacket has been more actively dealt in since our last report, over 200 feet changing hands, advancing from \$772½ to \$790, receding to \$775, rallied again to \$790, then sold at \$749@757½, closing yesterday at \$770. In the absence of official reports, a telegram, dated September 3d, says: "Mined 9,300 tons last month; gross yield, \$390,000." This is for the entire month of August, and gives an average of a fraction less than \$42 per ton. This, it is thought, will leave a net profit of nearly \$20 per ton.

Ophir has met with a slight decline, opening at \$210, receding to \$187, then advancing to \$195, and closed yesterday at \$210, b 30. A contract has been let by this Company to sink the shaft to a further depth of 100 feet, in order to get at the body of ore below the 9th level, opened by means of a winze. In the 7th level a body of ore has been found which promises well—1st-class paying, it is thought, \$200 and the 2d-class \$70 per ton. There are about 700 tons of ore now at the Company's Washoe works and mine, which, it is believed, will yield about \$70,000 in bullion. The working expenses of the mine, heretofore quite heavy, have been very materially reduced, and the receipts for the month of September will be larger than usual.

Chollar-Potosi has exhibited considerable animation the past week, and some 200 feet were sold; opening at \$130, s 60, advancing to \$135, then dropping to \$130, again selling at \$135, and closing yesterday at \$136. During the week ending September 1st, 478½ tons of ore were shipped to Custom Mills. The several stations of the mine present no new features requiring special mention. We have it from a reliable source that no assessment is thought of at present, as rumor would have it last week.

Imperial has advanced a trifle, selling early in the week at \$96, advancing to \$100, and closing at \$96 bid.

Belcher changed hands at \$115@127, then sold at \$125, closing at \$120. Confidence has commanded better figures, gradually rising from 46 (s 30) to \$56, and selling yesterday at \$59. Overman has changed hands to a large extent, improving somewhat from previous quotations, selling within a range of \$11¼@14½ the past week, and closing at \$14¼. Bullion met with small sales at \$29@25, and closed at \$23. Sierra Nevada rose from \$2½ to \$6¾; Daney was sold at \$4½; De Soto at \$3@3¼, and Exchequer at \$2@1¼ per share.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$361,135.

Thursday, September 6.

5 shs Chollar-Potosi at 132 per foot.
 2 shs Chollar-Potosi at 133 per foot, s 3.
 3 shs Chollar-Potosi at 133 per foot.
 5 shs Chollar-Potosi at 133 per foot.
 5 shs Chollar-Potosi at 134 per foot.
 3 shs Yellow Jacket at 751@759 per foot.
 2 shs Yellow Jacket at 757½@750 pr ft b 30.
 1 sh Yellow Jacket at 740 per foot, s 30.
 3 shs Yellow Jacket at 750 per foot c.
 1 shs Savage at 1120 per foot, s 30.
 2 shs Savage at 1135 per foot, b 3.
 1 sh Savage at 1130 per foot, s 3.
 1 sh Belcher at 127½ per foot.
 1 sh Belcher at 126 per foot.
 5 shs Imperial at 97 per share, s 3.
 1 sh Imperial at 100 per share.
 5 shs Imperial at 100 per share, b 30.
 5 shs Exchequer at 2 per share.
 15 shs Exchequer at 1½ per share.
 10 shs De Soto at 1½ per share.
 15 shs Overman at 14 per share, s 3.
 20 shs Overman at 14½ per share.
 10 shs Overman at 14½ per share, s 10.
 5 shs Overman at 14½ per share, s 15.
 5 shs Overman at 14½ per share.
 35 shs Overman at 14½ per share, s 3.
 10 shs Overman at 14 per share, s 10.
 5 shs Bullion at 28 per share, s 10.
 5 shs Bullion at 26 per share, s 30.
 50 shs Union Insurance Co. at 125 pr ct.
 20 shs National Ins. Co. at 77½ per cent.

AFTERNOON SESSION.

3 shs Chollar-Potosi at 135 per foot.
 2 shs Chollar-Potosi at 134 per foot.
 40 shs Chollar-Potosi at 131 per foot.
 6 shs Chollar-Potosi at 132 per foot, b 3.
 5 shs Chollar-Potosi at 132 per foot, s 3.
 1 shs Yellow Jacket at 757½ per foot.
 20 shs Daney at 4½ per share.
 1 sh Savage at 1135 per foot.
 1 sh Savage at 1135 per foot, s 3.
 15 shs De Soto at 3 per share.
 5 shs Confidence at 50 per share.
 10 shs Overman at 14½ per foot, b 5.
 3 shs Confidence at 56 per share, s 3.
 25 shs Overman at 14½ per share.
 5 shs Overman at 14 per share, s 30.
 5 shs Overman at 14½ per share, s 10.
 10 shs Overman at 14½ per share, s 30.
 20 shs Overman at 15 per share, b 10.
 3 shs Sierra Nevada at 6½ per share.
 5 shs Bullion at 25 per share.

Amount of sales.....\$ 43,107 50

2 shs Yellow Jacket at 758 per foot.
 1 sh Chollar-Potosi at 134 pr ft, b 30.
 9 shs Chollar-Potosi at 135 per ft s 30.
 1 sh Savage at 1150 per foot, s 10.
 1 sh Savage at 1155 per foot.
 1 sh Savage at 1165 per foot, s 3.
 1 sh Savage at 1180 per foot, b 30.
 1 sh Imperial at 99 per share.
 5 shs Confidence at 55 per share, s 30.
 3 shs Sierra Nevada at 6½ per share.
 15 shs Sierra Nevada at 6½ per share.
 3 shs Sierra Nevada at 6½ per share, s 3.
 5 shs Overman at 14½ per share.
 5 shs Overman at 14½ per share, s 3.
 5 shs Overman at 15 per share, b 10.
 10 shs Overman at 14½ per share, s 30.
 5 shs Overman at 13½ per share b 30.
 25 shs Exchequer at 2 per share.
 Amount of sales.....\$ 49,958 50

Friday, September 7.

2 shs Savage at 1155 per foot.
 3 shs Savage at 1150@1155 per foot, s 30.
 2 shs Savage at 1170@1180 per foot.
 3 shs Savage at 1190@1195 per foot, s 3.
 1 sh Savage at 1150 per foot, s 10.
 4 shs Yellow Jacket at 790@795 pr ft s 3.
 19 shs Yellow Jacket at 750@760 per foot.
 7 shs Yellow Jacket at 767½@770 b 30.
 6 shs Yellow Jacket at 750 per foot, s 30.
 3 shs Yellow Jacket at 760@762½ b 10.
 1 sh Yellow Jacket at 750 per foot.
 12 shs Ophir at 205 per foot, b 3.
 12 shs Ophir at 208 per foot.
 25 shs Ophir at 203 per foot, s 30.
 3 shs Ophir at 205 per foot.
 3 shs Bullion at 24 per share.
 2 shs Bullion at 21 per share.
 10 shs Bullion at 24½ per share.
 5 shs Bullion at 25 per share, b 3.
 5 shs Bullion at 25 per share c.
 10 shs Bullion at 26 per share, b 30.
 15 shs Overman at 14½ per share, s 30.
 15 shs Overman at 15 per share.
 5 shs Overman at 15½ per share, b 6.
 10 shs Overman at 15 per share, s 30.
 15 shs Overman at 15½ per share.
 5 shs Overman at 15½ per share b 10.
 15 shs Overman at 15½ per share, s 3.
 5 shs Overman at 15½ per share, b 30.
 20 shs Overman at 15 per share, s 3.
 30 shs Overman at 15 per share.
 20 shs Overman at 14½ per share s 10.
 5 shs Overman at 19 per share, b 10.
 10 shs Confidence at 57 per share, s 30.
 5 shs Confidence at 57 per share, b 30.
 5 shs Confidence at 57 per share, b 10.
 3 shs Confidence at 56 per share.
 50 shs N B & Mission R R at 45 per sh.
 \$10,000 Legal Tender Notes at 72½c.

AFTERNOON SESSION.

4 shs Crown Point at 880 per foot.
 7 shs Yellow Jacket at 760@770 per foot.
 4 shs Yellow Jacket at 755@765 pr ft, s 30.
 1 sh Yellow Jacket at 767½@770 per foot.
 1 sh Yellow Jacket at 770 per foot.
 1 sh Yellow Jacket at 770 per foot, s 3.
 12 shs Ophir at 210 per foot, b 30.
 5 shs Chollar-Potosi at 135 per foot.
 3 shs Gould & Curry at 710 per foot.
 3 shs Belcher at 125 per share.
 5 shs Belcher at 120 per share, s 30.
 5 shs Imperial at 97 per share s 3.
 20 shs Bullion at 25 per share.
 5 shs Bullion at 25 per share, s 30.
 15 shs Overman at 15½ per share b 30.
 5 shs Overman at 14½ per share, b 3.
 25 shs Overman at 14½ per share, s 30.
 5 shs Oakland Railroad at 31 per share.
 15 shs Oakland Railroad, 50 per cent.
 \$10,000 U. S. 7-30 Bonds, June issue, at 77½c.
 \$10,000 Legal Tender Notes at 72½c.
 Amount of sales.....\$ 99,505 50

COTTON STALKS FOR HEMP.—It has recently been discovered that every 120 pounds of cotton stalks, when properly dressed, will yield forty pounds of thread, as good as flax for making bagging and other coarse fabrics. A large company has been organized in one of the Southern States to turn this discovery to practical account. Now if some lucky inventor will discover a way to reduce this material to pulp for paper-making, he will not only secure a fortune for himself, but do an important service to the world.

GEORGE A. MITCHELL, the inventor of the "copper tip" for children's shoes, was recently drowned near his own home, in attempting to save his son from a like fate. Both father and son found a watery grave. Mr. Mitchell had acquired a large fortune from his invention.

THE DESERT IN BLOOM.—It appears as though the arid Desert of Sahara would soon be made to bud and bloom under the scientific management of French Engineers. Five deep artesian wells have been sunk as an experiment, and the ground around them is already clad with verdure from their life-giving waters. It is said that fish have come up from this mysterious source of water beneath that parched crust of the earth.

EFFECTS OF TRANSPLANTING.—It is stated that by transplanting flowering plants several times a year for two successive years, without allowing them to bloom, they can be made to produce double blossoms, while the plant only previously gave single ones.

ORANGE TREES, literally loaded with fruit, are growing at Bidwell's Bar, in Butte county. One tree is estimated to have at least 2,000 oranges growing upon it. This fruit ripens to perfection in that locality. There are numerous other sheltered places in central California where this fruit will ripen in the open air.

GOLD YIELD IN AUSTRALIA.—Notwithstanding an extraordinary drought, and consequent scarcity of water for mining purposes, the productiveness of the Australian gold fields does not appear to have been checked. The reports from many of the companies show but little falling off. The Custom House returns of the export of gold since the beginning of this year, up to the latest date, give 1,648,693 ounces. The quantity exported last year was 1,725,000 ounces, in the like period.

EACH of us bears within himself a world unknown to his fellow-beings, and each may relate to himself a history resembling that of every one, yet like that of no one.

YOUNG MEN WANTED!

Pacific Business College!

751 Market street, between Third and Fourth, SAN FRANCISCO.

AN INSTITUTION DESIGNED TO PREPARE YOUNG and middle-aged men for an active and successful business life.

BOOK-KEEPING, PENMANSHIP, COMMERCIAL LAW, COMMERCIAL ARITHMETIC, CORRESPONDENCE, MODERN LANGUAGES, ETC.,

Practically taught.

This College forms a link of the

American Chain of Commercial Colleges, Located in the principal cities of the United States, and is the only institution on the Pacific coast conducted on actual BUSINESS PRINCIPLES.

Regular Banks and Business Offices have been introduced.

By which we are enabled to fit out Students in the BEST POSSIBLE MANNER, and at the LEAST EXPENSE of time and money, for the practical duties of the Counting House.

Students can enter at any time of the year, there being no vacations. Each student receives individual instruction, with the exception of Lectures and other general exercises.

The College Review.

Owing full particulars of the College, can be had FREE, by calling at the College, or addressing

E. F. HEALD, President Business College, San Francisco.

SANTA CLARA COLLEGE, S. J., SANTA CLARA, CAL. Conducted by the Fathers of the Society of Jesus.

The SIXTEENTH ANNUAL SESSION of this College will commence on

Monday, August 20th, 1886.

TERMS—Tuition in the Classical and Scientific Department; Boarding and Lodging; Washing and Mending of articles washed; School Stationery; Medical Attendance and Medicine; fuel, light, baths, etc., per session of ten months. \$350. For further information and catalogue, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

REV. A. MARASCHI, S. J., President.

MINING SHAREHOLDERS' DIRECTORY,

(Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.)

Comprising the Names of Companies, District or County, Location, Amount of Assessment, Date of Meeting, Day of Delinquent Sale, and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT OF ASSESSMENT.	DAY OF DELINQUENT SALE.	DAY OF PAYMENT OF DIVIDENDS.
Assurance M. Co. Cal. \$1	Sept 25—Oct 1	Sept 25—Oct 1	Sept 25—Oct 1
Arthur M. Co. Mex. \$1	Sept 25—Oct 1	Sept 25—Oct 1	Sept 25—Oct 1
Antioch P. Petrol. Co. Contra Costa Co. \$2	Sept 24—Oct 1	Sept 24—Oct 1	Sept 24—Oct 1
Blue Lodge G. S. & Q. M. Co. Cal. \$1	Annual Meeting Aug 27	Annual Meeting Aug 27	Annual Meeting Aug 27
Belcher, Baldwin, and Abernethy Co's \$10	Aug 21—Sept 2	Aug 21—Sept 2	Aug 21—Sept 2
Belcher Co. \$45	Aug 21—Sept 2	Aug 21—Sept 2	Aug 21—Sept 2
Consolidated S. H. M. Co. \$1	Oct 1—Oct 21	Oct 1—Oct 21	Oct 1—Oct 21
Chilpanotla M. Co. \$250	Sept 24—Oct 1	Sept 24—Oct 1	Sept 24—Oct 1
Capitola O. S. & C. M. Co. Cal. \$10	Sept 18—Oct 1	Sept 18—Oct 1	Sept 18—Oct 1
Casta S. M. Co. Mex. \$1	Aug 30—Sept 1	Aug 30—Sept 1	Aug 30—Sept 1
Coarbita G. & S. M. Co. Mex. \$1	Special Meeting Aug 25	Special Meeting Aug 25	Special Meeting Aug 25
Cordillera I. & S. M. Co. Mex. \$1	Sept 1—Sept 17	Sept 1—Sept 17	Sept 1—Sept 17
Crown Point, dividend, \$311	Aug 21—Sept 12	Aug 21—Sept 12	Aug 21—Sept 12
Confidence S. M. Co. Storey Co. Nev. \$1	Div. 10 p. c. Pay July 9	Div. 10 p. c. Pay July 9	Div. 10 p. c. Pay July 9
Cole S. M. Co. Storey Co. Nev. \$1	Annual Meeting Sept 13	Annual Meeting Sept 13	Annual Meeting Sept 13
Casta S. M. Co. Mex. \$1	Annual Meeting Sept 17	Annual Meeting Sept 17	Annual Meeting Sept 17
Diana G. & S. M. Co. Nev. \$5	Oct 1—Nov 2	Oct 1—Nov 2	Oct 1—Nov 2
Diamond C. M. Co. Del Norte Co. \$1	Sept 15—Oct 1	Sept 15—Oct 1	Sept 15—Oct 1
Del Norte Comstock Co. Del Norte Co. \$1.45	Aug 30—Sept 24	Aug 30—Sept 24	Aug 30—Sept 24
Daney G. & S. M. Co. Lyon Co. Nev. \$1	Sept 15—Oct 1	Sept 15—Oct 1	Sept 15—Oct 1
Excelsior M. Co. Storey Co. Nev. \$1	Sept 21—Oct 1	Sept 21—Oct 1	Sept 21—Oct 1
Gold Hill T. M. Co. S. M. Co. Nev. \$1	Sept 15—Oct 1	Sept 15—Oct 1	Sept 15—Oct 1
Enterprise O. S. M. Co. Meadow Lake \$1.25	Sept 25—Oct 13	Sept 25—Oct 13	Sept 25—Oct 13
Eureka, San Juan, dividend \$1.50 per sh.	Pay immediately	Pay immediately	Pay immediately
Geo. Washington G. & S. M. Co. Alp. Co. \$1	Sept 6—Oct 1	Sept 6—Oct 1	Sept 6—Oct 1
Gold Hill T. M. Co. S. M. Co. Nev. \$1	Annual Meeting Sept 17	Annual Meeting Sept 17	Annual Meeting Sept 17
Gould & Curry, dividend \$30	Payable June 8	Payable June 8	Payable June 8
Hanscom C. M. Co. Del Norte Co. 50c	Aug 31—Sept 15	Aug 31—Sept 15	Aug 31—Sept 15
Hale & Norcross, dividend	Payable Aug 15	Payable Aug 15	Payable Aug 15
I. X. L. G. & S. M. Co.	Annual Meeting Sept 15	Annual Meeting Sept 15	Annual Meeting Sept 15
Imperial G. & S. M. Co. dividend \$65	Payable Aug 15	Payable Aug 15	Payable Aug 15
Independent G. M. Co. Dividend	Meeting Sept 25	Meeting Sept 25	Meeting Sept 25
Jefferson G. & S. M. Co. Yuba Co. Div. 10 p. c.	Payable Aug 21	Payable Aug 21	Payable Aug 21
Jeffrey Oil M. Co. Humboldt Co. 2c.	Aug 20—Sept 13	Aug 20—Sept 13	Aug 20—Sept 13
Kentucky C. M. Co. Cal.	Annual Meeting Aug 22	Annual Meeting Aug 22	Annual Meeting Aug 22
Kentucky C. M. Co. Calaveras Co. \$1	Sept 5—Sept 25	Sept 5—Sept 25	Sept 5—Sept 25
Lady Bell C. M. Co. Del Norte Co. 10c	Sept 11—Oct 2	Sept 11—Oct 2	Sept 11—Oct 2
Leland, Arizona, 30c	Aug 22—Sept 10	Aug 22—Sept 10	Aug 22—Sept 10
Lady of the Lake, Arizona, 60c	Aug 22—Sept 10	Aug 22—Sept 10	Aug 22—Sept 10
Lady Bryan, \$1	Aug 25—Sept 11	Aug 25—Sept 11	Aug 25—Sept 11
Mina Riera de las Flores M. & M. Co. Cal. \$1	Oct 2—Oct 11	Oct 2—Oct 11	Oct 2—Oct 11
Melones and Stanislaus G. S. & C. Co. \$2	Oct 4—Oct 25	Oct 4—Oct 25	Oct 4—Oct 25
Nammoth G. M. Co. Kern Co. \$30	Oct 4—Oct 25	Oct 4—Oct 25	Oct 4—Oct 25
Nuestra Sra de Guadalupe S. M. Co. \$1	Oct 1—Oct 31	Oct 1—Oct 31	Oct 1—Oct 31
Old Colony S. M. Co. Nevada, \$5	Sept 7—Oct 5	Sept 7—Oct 5	Sept 7—Oct 5
Overman S. M. Co. \$15	Sept 25—Oct 10	Sept 25—Oct 10	Sept 25—Oct 10
Patriotina and Dolores S. M. Co. \$1.25	Sept 22—Oct 8	Sept 22—Oct 8	Sept 22—Oct 8
Rattlesnake G. & S. M. Co. Yuba Co. \$1	Sept 12—Oct 3	Sept 12—Oct 3	Sept 12—Oct 3
Refugio M. Co. of Jesus Maria, Mex. Annual Meeting	Sept 13	Sept 13	Sept 13
Rose Linda M. & M. Co.	Special Meeting Sept 15	Special Meeting Sept 15	Special Meeting Sept 15
San Marcel S. M. Co. Mex. \$1	Oct 19—Nov 2	Oct 19—Nov 2	Oct 19—Nov 2
Santa Cruz Petrol Oil Works Co.	Annual Meeting Sept 24	Annual Meeting Sept 24	Annual Meeting Sept 24
Belcher M. Co. Cal. \$1	Sept 19—Oct 1	Sept 19—Oct 1	Sept 19—Oct 1
Simpson M. & M. Co. Alpine Co. 30c	Sept 4—Sept 24	Sept 4—Sept 24	Sept 4—Sept 24
Scott M. & E. Co. Humboldt Co. Nev. 50c	Aug 7—Sept 1	Aug 7—Sept 1	Aug 7—Sept 1
Sept 10, 1886, 30c	Aug 7—Aug 28	Aug 7—Aug 28	Aug 7—Aug 28
Santiago M. Co. dividend	Payable Sept 5	Payable Sept 5	Payable Sept 5
Sierra Nevada S. M. Co. Nev. \$1	Sept 5—Sept 25	Sept 5—Sept 25	Sept 5—Sept 25
Seaton M. Co.	Annual Meeting Sept 12	Annual Meeting Sept 12	Annual Meeting Sept 12
Tecumseh G. S. & C. M. Co. Cal. 50c	Sept 17—Oct 8	Sept 17—Oct 8	Sept 17—Oct 8
Toddman Mountain O. S. M. Co. \$1	July 22—Sept 11	July 22—Sept 11	July 22—Sept 11
Triunfo G. & S. M. Co. L. C. \$5	Aug 27—Sept 8	Aug 27—Sept 8	Aug 27—Sept 8
Triunfo O. S. M. Co. L. C. \$1	Aug 27—Sept 8	Aug 27—Sept 8	Aug 27—Sept 8
Union Natello Oil Co. Humboldt Co. \$15	Sept 24—Oct 15	Sept 24—Oct 15	Sept 24—Oct 15
White & Murphy G. & S. M. Co. \$1	Oct 11—Nov 1	Oct 11—Nov 1	Oct 11—Nov 1
Yellow Jacket S. M. Co. div. \$50 sh	Payable August 15	Payable August 15	Payable August 15

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, September 7, 1886.		
	Bid.	Asked.
United States 7 & 10ths	77 1/2	78
Gov. Legal Tender Notes	71 1/2	72 1/2
State Bonds, 7 p. cent.	81 1/2	82
San Francisco 10 p. cent.	100	105
San Francisco Bonds, 1855, 6 p. cent.	110	120
San Francisco Bonds, 1858, 6 p. cent.	69	71
Sacramento City Bonds, 6 p. cent.	19	21
Sacramento County Bonds, 6 p. cent.	61	65
Marysville Bonds, 10 p. cent.	81	82
Stockton Bonds, 10 p. cent.	80	85
Yuba County Bonds, 10 p. cent.	80	85
Butte County Bonds, 10 p. cent.	70	80
California Navigation Co.	74	75
State Telegraph Stock	31 1/2	34 1/2
San Francisco Gas Co.	110	115
Sacramento Gas Co.	76	78
Spring Valley Water Co.	83	84 1/2

RAILROADS.		
Sacramento Valley Railroad	64	65
OmniBus Railroad	64	65
Central Railroad Co.	44	46
North Beach and Mission	44	46

MINING STOCKS.		
Alpha	75	125
Baltimore American	23	24
Billion, G. H.	120	125
Belcher	69	69
Confidence	210	220
Ophir	710	70
Gould & Curry	102	105
Empire M. & M. Co.	1160	1175
Savage	135	140
Chollar-Potosi	180	180
Hale & Norcross	2 1/2	3
White & Murphy	770	775
Sierra Nevada	14	14 1/2
Yellow Jacket	880	900
Overman	98	100
Crown Point	98	100
Imperial	98	100

San Francisco Market Rates.

WHOLESALE PRICES.		
FRIDAY, Sept. 7, 1886.		
Flour, extra, 3 bbl.	5 00	5 50
Do Superfine	4 50	4 75
Corn Meal, 3 100 lb.	1 45	1 55
Wheat, 3 100 lb.	1 40	1 50
Oats, 3 100 lb.	1 00	1 05
Barley, 3 100 lb.	3 50	4 00
Beans, 3 100 lb.	40	60
Potatoes, 3 100 lb.	7 00	13 50
Hay, 3 ton	8 00	10 00
Livestock, 3 cord	6 00	8 00
Beef, extra, dressed, 3 lb.	10	12 1/2
Sheep, on foot, 3 lb.	3 00	4 00
Hogs, on foot, 3 lb.	8	10
Hogs, dressed, 3 lb.	10 1/2	13
GROCERIES, ETC.		
Sugar, crushed, 3 lb.	12 1/2	13
Do China	24	25
Coconut, Costa Rica, 3 lb.	23	24 1/2
Do Rio	75	85
Tea, Japan, 3 lb.	70	1 00
Do Green	9	10
Hawaiian Rice, 3 lb.	6 1/2	7 1/2
China do.	6 1/2	7 1/2

Coal Oil, 3 gal.	70	7 1/2
Candle, 3 lb.	14	22
Ranch Butter, 3 lb.	32 1/2	46
Butter, 3 lb.	30	37 1/2
Cheese, California, 3 lb.	10	11
Eggs, 3 doz.	10	60
Lard, 3 lb.	10	20
Ham and Bacon, 3 lb.	20	21
Shoulders	12 1/2	18

Retail Prices.		
Butter, California fresh 3 lb.	45	50
do pickled 3 lb.	38	40
do Oregon	35	40
do New York, 3 lb.	40	50
Cheese, 3 lb.	15	25
Honey, 3 lb.	30	40
Eggs, 3 doz.	60	80
Lard, 3 lb.	22 1/2	26
Hams and Bacon, 3 lb.	22 1/2	25
Cranberries, 3 gal.	75	1 00
Potatoes, old, 3 lb.	—	—
do New 3 lb.	1 1/2	1
Onions, 3 lb.	6	6
Apples, No. 1, 3 lb.	3 1/2	8
Pears, table 3 lb.	8	10
Plums, dried, 3 lb.	20	22
Peaches, dried, 3 lb.	16	—
Oranges, 3 doz.	50	—
Lemons, 3 doz.	75	—
Chickens, apricot	87	1 12
Soup—Palo & C. O.	8	10
Castile	—	16

Professional Cards.

FREDERICK MANSSELL.
Mechanical & Architectural Draughtsman,
No. 422 California street, corner of Laidlaw.
Drawings of Monks made for parties applying for patents at Washington or London.

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
COURT COMMISSIONER, appointed by the Fourth District Court, COMMISSIONER OF DEEDS for Nevada and Massachusetts.
Court Block, San Francisco.
Entrances opposite City Hall, Merchant street, and 636 14th street.

DR. H. AUSTIN,
DENTIST,
No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER SAN FRANCISCO BATHS]
SAN FRANCISCO. 20v10-4y

DR. D. R. BECKFORD,
OCULIST,
Office of Dr. Beckford's "Golden Eye Water,"
16v12 3m NO. 719 CLAY STREET.

AUGUST KUNAST,
Stock Broker,
Member of the
San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
Office, No. 540 Washington Street, San Francisco. 2v10

WILLIAM P. BLAKE,
MINING ENGINEER,
Will make surveys and examinations of Mines, or give advice regarding their working, the erection of Machinery, etc.
Office at Union Iron Works, corner of First and Mission streets, or Lock Box 2,077 Post Office, San Francisco. 11v22-4y

GEORGE H. BAKER,
Lithographer & Engraver,
No. 522 Montgomery St., San Francisco.
MINING STOCK CERTIFICATES LITHOGRAPHED IN MOST ARTISTIC STYLE. CALL AND EXAMINE SPECIMENS.
10v8-1f

SHERMAN DAY,
Mining Engineer,
No. 57 Montgomery Block, San Francisco.
Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines.
2v1

VALUABLE MINES! FOR SALE IN NEVADA COUNTY.

FOUR VALUABLE QUARTZ MINES, SITUATED AT THE base of Deer Mountain, and about equidistant from Grass Valley and Nevada City, are now offered for sale. These lodes run parallel with each other, are wide and well defined, varying from fifteen inches to four feet in width, and have been sufficiently developed to prove them to be of great prospective value. One of them is an extension of the famous Star Spangled Banner. A shaft has been sunk on the extension to a depth of thirty feet, where the lode is fully two feet wide, and prospects quite as well as the Banner did at that depth. On account of water, further progress downward was impossible without machinery. These claims are accessible at all seasons of the year, and wood and water exist in their immediate vicinity in great abundance. Parties who would prefer putting up machinery and sinking on one or more of these claims, for an interest in them, can do so, and liberal terms will be granted by the present owners. Persons desiring to purchase claims, or erect machinery to prospect the same, will find this a capital chance. For further information, reference may be had on application to the Editors and Publishers of the MINING AND SCIENTIFIC PRESS, 505 C Street, San Francisco. 2v12

By EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co.'s tariff) on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

FIRST PREMIUMS!



FOR PRINTING,
AWARDED AT THE
MECHANICS' INDUSTRIAL EXHIBITION
SAN FRANCISCO, 1885,
—AND AT THE—
State Fair at Sacramento, 1885,
—TO—
DEWEY & CO.,
BOOK AND JOB PRINTERS,
PUBLISHERS OF THE
MINING AND SCIENTIFIC PRESS,
505 Clay street, San Francisco.

Preparing for Publication.
A complete History and Directory of the
Central Mines of Colorado.
And the towns and cities in their vicinity.

PERCEIVING THE GREAT ADVANTAGE TO COLORADO a pamphlet, historical and descriptive of its central and most important mines would be at the present time, the subscriber has undertaken to publish such a work. It is designed to fix for the future the discovery and early history of the mines, to sketch their progress and present condition, to give such statistics as are attainable with regard to their production, actual and possible; in fine, to disseminate throughout the East and in Europe accurate information respecting them. To relieve the tedium of such a work, interesting incidents illustrating the early manners and customs of the pioneers, and the gradual organizing into its present condition of the first and always to be the eminently Rocky Mountain State, will be given.

It is also designed to contain a complete Directory of the towns of Central, Black Hawk, Nevada, Golden City, Idaho, Empire, Georgetown, Gold Dirt, and South Boulder; views of each of those places; separate views of the principal buildings, public and private; also views of mills, ammines and of mountain scenery.

There will also be attached a Business Department, in which a limited number of advertisements will be in.

O. J. Hollister, of the Black Hawk Mining Journal, has been engaged to compile the body of the work—the historical and descriptive narrative. Having been here uninterruptedly for the past six years, and mingled freely in perhaps every walk of life, he trusts he will be able to do the subject ample justice.

All old residents of this region who are familiar with the discovery and early history of the mines, or with interesting incidents of that indefinite time known as the "early day," will confer a favor on the subscriber by furnishing such information to O. J. Hollister, Journal office, Black Hawk, Colorado.

The work will be issued sometime during the month of August. Price \$2, bound in paper; in muslin, \$2.50.

Address, G. M. BINKLEY,
May 10th, 1888. Central City, C. T.

Blanks, Blank Mining Books, Constitution and By-Laws

—FOR—
Mining and Prospecting
Companies

Elegantly printed, with care and dispatch, at the office of the
Mining and Scientific Press.

Orders from the interior faithfully attended to.

Mining Summary.

CALIFORNIA.

Alpine County—

The *Miner* of Sept. 1st, has these items: The Mowyer tunnel is to be run from this ore until the ledge is cut, with an increased force. Water is now coming in at the face, and the sound of water ahead gives hope that the lode is near at hand.... An additional force was this week put to the work of getting out and assorting ore from the Morning Star.... The furnaces for the Davidson mill are well under way, the superstructure and furnaces proper being finished and the main flue or chimney more than half completed. The height of the whole will be forty-eight feet, and it is being built in the best manner.... The ledge of the Washington is understood to be improving in size and quality. The Mountain tunnel is being pushed ahead. The Lady Elgin company, owning on the Kohinour lode, are about letting a contract for seventy-five feet of tunnel. The Silver Mountain Buckeye No. 2, Maine and Pennsylvania companies, are at work with usual progress.

Amador County—

From the *Ledger* of Sept. 1st, we clip the following: The owners of the Anaconda, at Pine Grove, resumed work some two weeks since, and found rich ore from the beginning in the lower south drift. It has grown richer daily. We are informed that the mine is for sale.... The Coney & Bigelow mill, at this place, now under the management of C. T. Meader & Co., has been refitted with Mr. Amherst's concentrators, amalgamators, etc., and is again running. Everything about this mill seems like earnest work.

Same paper has an editorial again urging the point that a few hundred dollars expended in developing a mine, is almost sure to give one a property of many thousands.

Butte County—

The *Appeal* of 2d inst. says: We saw yesterday a very fine specimen rock from the Sherman ledge, at Cherokee, three miles from Oroville. We had seen other specimens from this ledge, and our confidence in its richness, after looking at this last, is greatly increased. The owners, Messrs. Binney, Kimball, and others, have a small prospecting mill on the ledge, and feel greatly encouraged.

Calaveras County—

The *Courier* of 1st of September says: The Gold Hunter, in which such a very rich strike was made last week, is under process of thorough development, being worked night and day. We have conversed with reliable persons who have facilities for being thoroughly posted in the mine, and the deduction is that the reports are correct, and that the Gold Hunter is indeed a "big thing.".... From present indications, the Fair Play, located near Saa Andreas, will prove very rich at so very distant day. The company have an arastra at work crushing rock which yields twelve dollars to the hundred pounds, or \$240 per ton.

The workmen in the quartz claim of Wm. Irvine, at El Dorado, says the *Register* of the 28th, struck some very rich rock during the past week. They have drilled some forty feet north on the lead, and from two blasts, it is believed that the rock taken out will yield three thousand dollars.

The *Chronicle* says of the West Point mines: Barnes & Karstner cleaned up \$4,500, the result of sixty-five tons of rock taken from their lowest tunnel, 150 feet below the surface. After working the lead some seventy feet deep, the value of the ore decreased from \$100 to fourteen dollars per ton, but still paying the owners a handsome profit.... Carlton & Co. have a vein six inches wide, prospecting \$200 per ton.... Gouldson & Co. have struck a vein described as "bully".... Wilson & Matthews are profitably working a vein from two to four inches in width; the rock will pay \$130 per ton. Fields & Co. are still sinking; the vein is fifteen inches wide at the depth of fifty feet, and will probably yield \$70 per ton. * * * In view of the natural facilities assisting the miner, the high quality of ore extracted, and the enormous net yield of mining operations, the quartz mines in the vicinity of West Point are probably second to none on this coast."

Humboldt County—

Mattolie correspondence of the *Times*, dated August 20th, says: The Davis well has attained a depth of 1,180 feet; the Jeffrey well 840—indications in both unchanged, except, perhaps, a little more gas than usual. The Ponner Farm is progressing finely. Every one agrees that prospects here are very flattering. Some of the stock in the Yosemite has changed hands, and the company are going to resume work immediately.... The Union Mattolie Oil company has levied an assessment of fifteen dollars per share on all the shares of stock assessable as well as unassessable of the company.

Kern County—

The *Havilah Courier* of the 25th has the following items: The Soyola mill will soon be

at work upon the ore from the Delphi.... We are continually hearing of the discovery of new leads in the various mining districts of the county. The latest discoveries have been made in the new Washington District, on Kern River, and they are represented as being very rich. Claims are doubly valuable on this river, because of the great water-power it affords. Probably the facilities for water-power mills are better on Kern river than any place in the State.

Same paper of September 1st, says:—Mr. Joseph Roberts of Long Tom District, superintendent of the Long Tom Mine and Mill, gives very flattering accounts of that section of our county.... Some fine specimens of rock from the Delphi mine, taken at the depth of one hundred feet, were left with us and prospecting well. Some ore from the Washington lode, in the Rio Bravo district, discovered by John Poe, also showed a fine prospect.... The Cape Horn has been opened to the depth of forty-two feet, and shows a lode of three feet in thickness. It bids fair to prove the best mine of the "Bigler Purchase." The French Friend shows a ledge of two feet at the depth of forty.... The new mill of the Rand company is completed, and is at work crushing the ore from the Relief and Fame lodes. The former has a ledge of four feet at the depth of two hundred feet.... The Jupiter company are energetically at work upon their mine. Their No. 2 is seventy-five feet in depth, and the vein from two to six feet in width. The tunnel is in two hundred and twenty feet. Twenty feet more will strike the ledge at the depth of one hundred and fifty feet.... The Venus is in sixty feet, with a three-foot vein. Rock yielded \$38 per ton.... The Delphi lode has been sunk upon to the depth of three hundred feet. Vein averages over four feet. This will, we predict, prove a valuable mine. It has just been opened. A large quantity of rock has been worked, all of which paid well. This and the Countess of Tyroae are owned by McKeadney, Treadwell and others.... The Bamboo and Boomerang lodes, owned by James Eldridge, are promising. The latter is three feet thick. Several crushings from it gave a result of \$25 to \$30 per ton.

A letter to the *Tulare Times* of September 1st, says:—The Long Tom company have a tea-stamp mill, about one-fourth of a mile from the mine, and crushing from fifteen to eighteen tons per day. The ledge is one of the largest and finest I have ever seen, and from what the Superintendent tells me, and from the "prospects" I have made from it, pays better than any in Southern California. The main shaft is now down 165 feet on the ledge. They are driving their work, sinking, drifting and stoping night and day. Last week the sale of a one-half interest in the Isabella, Mary Wallace mine was made to a San Francisco capitalist. This ledge is about one mile north of the Long Tom, and is very rich. A sale of half of the Robert E. Johnson mine was made last week. This claim is but a few rods south of the Long Tom, has paid from \$25 to \$90 per ton, and has been worked about five months. The Mary McDonald mine, about one-fourth of a mile south of the Long Tom, has been worked successfully and profitably for the past fifteen months.

Klamath County—

The Humboldt *Times* of August 25th, says: The Red Cap Copper Mining Company have just received another installment of ore from their claim in Klamath county, in quantity about two and a half tons. The quality of this ore is still very superior. There is but little doubt now that they have a claim of great value. One thing is certain, the ore they are taking from it is of surpassing richness.

Mariposa County—

William T. Bourne, who was sent on from New York by the company now running the Fremont estate, reports August 3d on his return, after having spent two and a half months on the estate, that he finds it an extremely valuable property, and that the company would be warranted in making an immediate appropriation for its further development. He names each of the mines in turn, and states that every one of these can be made to pay at once, with but a small outlay. He says there are 150 stamps in good working order, capable of crushing 250 tons per day. He alludes to a new process introduced at the Benton mills during his visit, by which it is claimed that a yield of \$28 per ton was obtained from rock which as previously worked, would not pay expenses, and recommends its introduction at the other mills on the estate. He states that from recent experiments upon the large piles of tailings at the different mills, it is evident that the owners of the property have in sight at least one million of dollars, which can be realized at a cost of less than one-half that amount.

Nevada County—

From the *Gazette* we clip the following items: Captain Fleming, who some time since resumed work on his ledge, has struck through into the works of the Italian Com-

pany. We were shown, yesterday, a specimen of very rich sulphuret ore from Fleming's tunnel.... We understand that a rich strike was made recently in the incline of the Union ledge. The rock taken out the past two or three days shows much free gold, and will pay largely.... The name of the Star Spangled Banner Mine has been changed to "Banner.".... The shaft in the Fox Copper mine is down 45 feet. Ore averaging thirty per cent. has been struck.... We saw yesterday (Sept. 1st) some extraordinary rich specimens of gold bearing quartz. They came from a ledge belonging to Lethe & Cressy, near Wood's ravine. Some fifteen or twenty pounds of the rock, brought in from the ledge yesterday, we should think would pay five or six dollars a pound, and we are informed that a large tub full of the same kind had been taken from the mine.... Arrangements have been made for erecting hoisting works on the Mattingly ledge.... The certificate of incorporation of Ancient River Channel Blue Gravel Mining Company has been filed in the Clerk's office at San Francisco. The claim of this company is situated on the Chalk Bluff ridge, commencing at the upper end of the claim of the Chalk Bluff Company, and extending up the ridge ten miles. The locators, D. O. McCarthy, and others, will commence operations at Bear Valley, and sink for the bottom of the ancient channel.

The Grass Valley *Union* of August 30th, says: The Washington ledge on the Ben Franklin Hill, is looking better than ever. An interest of one hundred feet was sold during the present week for \$1,500 cash, and the trade is here regarded as an excellent one for the purchaser.

The same has a series of articles entitled "Our Title-Regulators." The series extends through former issues, and handles roughly those who make it their business to throw doubt upon titles, and to trump up bogus or bring forward obsolete claims to mining ground. The editor says: "Go in whatever direction you may from Grass Valley—for our town is a center-set jewel in quartz and gold—discover a ledge, commence working on it, and if it shows the least indication of being rich, you either at once have a lawsuit to fight, or you are cajoled or frightened into giving up your location." A paid witness makes oath to the twenty days' work yearly required by law, and you are either ousted or black-mailed. "These unprincipled adventurers have done much toward retarding the prosperity of our mines. We have it on good authority, that a gentleman representing one of the heaviest moneyed firms in the East, who has twice visited Grass Valley with the intention of investing in our quartz mines, left the town in disgust, because in almost every case he had the assurance of some 'knowing ones' that he was about to purchase for himself an extensive lawsuit or series of lawsuits."

The *National* has these items: The ledge was struck this morning in the northern extension of the Ophir mine on Ophir Hill.... The old shaft, in the Ophir, which is now nearly six hundred feet deep, is yielding some beautiful rock, most every piece containing more or less gold visible to the eye. The new shaft is now some three hundred and twenty-five feet deep and is producing some very pretty rock.... At Osborne Hill, Woodworth & Co. are now down on their ledge about three hundred and forty feet. In the incline rock is now being taken out ore which yields about \$15 to the ton.

The *Transcript* learns that an exceedingly rich ledge was struck near Allison's Ranch on Saturday, August 18th. The vein is six inches wide, and is nearly one-third gold. It is called the Red White and Blue.

EXCELSIOR.—The *Gazette* says: A number of Meadow Lakers have been sojourning in Nevada for the past few days, and bring, on the whole, favorable reports of the mining prospects of the township. The transient population, and those who went there to speculate and buy and sell stocks, have mostly left, while the mine owners in general, having given up the idea of making sudden fortunes, have gone to work systematically to develop and prove the value of their claims.

The following items are from the *Sun* of Aug. 30th: The Excelsior mill starts up on next Monday. The machinery is being rapidly put in readiness.... Bullion, to the amount of \$1,716.37, from the Western Company, Pennsylvania ledge, near Carlisle, was received here for shipment yesterday.... The Moscow Company, Moscow ledge, in the immediate vicinity of the Pacific, are sinking a shaft. They have gone down only about six feet, but have made arrangements to descend forty feet lower. The mine prospects well.... The Pacific Company, Pacific ledge, have a working shaft down forty feet. The company is raising a drift along the ledge from the bottom of the shaft, in a southeasterly direction, and are taking out an abundance of rich ore.... The Galena Company are making a cut across their ledge.

Placer County—

The *Stars and Stripes* of Sept. 5th has these items: The Norfolk company, whose

claim is located near Ophir, are hard at work, and taking out some very fine rock. Walters has taken out of his claim in the same vicinity about a hundred tons of splendid rock, and frequently picks up fine specimens rich with free gold.... Twenty-five tons of rock—selected as the poorest taken from the ledge—from the Civil Rights claim, have just been crushed at Wely's steam mill, below Ophir, and the yield is some four or five ounces of free gold, and about 600 pounds of sulphurets, valued at from \$500 to \$600.... The Wells' lead at Bald Hill is an extension of the famous "Green Emigrant," and, in the language of one of the fortunate locators, is "the biggest thing in the county," according to present appearances. The company sunk a shaft on the ledge to the depth of eighteen feet, following the casing down beside the ledge, and on Monday put in a blast to the depth of fifteen inches, which displaced a large quantity of rich rock, but did not go through the ledge.

Plumas County—

The *National* of Sept. 1st says: We learn that Mr. H. C. Bidwell, who has been sinking a shaft upon the Union ledge, in Indian Valley, has struck the ledge, and discovered an excellent prospect.

Letter to same from North Fork, dated August 27th, has these items: Osborn & Brewer's claim is paying wages.... Hall, Brown & Co. are not down yet, but will strike bed rock this week.... Richards, Self & Co. have struck bed rock and obtained good prospects.... Morris & Clarke have the best claim on the river, if not in the county. Their claim is paying one ounce per day to the hand.... The French company have been taking out large pay—as much as \$3,000 per week—but it weakened on them a little last week. The Jaw Bone company have taken out some good pay, obtaining as high as five dollars to the ton.... Lynn, Cook & Co. are on bed rock making wages.... Levett & Davis struck big pay, running out \$4 in one afternoon.... Benham, Wagner & Co. are taking out good pay in the old Vansickle claim.... Thompson, Reed & Co. are still piling in the Osborn ravine, and expect to make a big clean-up in a short time.... At Twelve-Mile Bar, York, Messner & Co. have in 400 feet of flume. They have just got their claim dry, and expect to do well.... On Ding Bar, Kiser & Co. are still piling.... On the Torey Hill, Hallstead & Davis have stripped two or three acres of bed rock, but have not cleaned up yet.... Rich Gulch has dried up for the season.

The correspondent of the *Appeal*, under date of August 23d, from Nelsona Point, says: Richard & White are not down yet. They have three large pumps running, which does not keep the water out. Shubert & Co., in Nelson Creek, are washing tailings and all, from top to bottom. I hear that it pays well. Some of the Celestials have worked out their first claims, and now have other wing-dams in. Bonner & Hardy's hydraulic claim, at Clip Flat, has proved a fizzle.

San Bernardino County—

We clip the following from the *Los Angeles News* of August 21st: Our townsman, Mr. P. Beaudry, one of our largest and most enterprising merchants, has brought from the Rochester mine, situated in the Slate Range district, gold bullion weighing twenty-three pounds, of a value of \$4,410, the product of 120 tons of quartz, showing an average of \$35 per ton.

The mine is located in the most western portion of San Bernardino county, Slate Range district, about one hundred and fifty miles from Los Angeles. This mine has been in product for nearly four years, and above 5,500 tons has been reduced on an average of \$16 per ton, but through the many improvements, incident expenses for roads and running tunnels, the owners became embarrassed, and this mine, with the Albany, Cattaragus, Knickerbocker and Philadelphia, known as the Rochester Consolidated Gold and Silver Mining Company, with all its appurtenances, thirteen stamp steam mill, etc., were sold by the Sheriff on the 10th of February last, to Mr. P. Beaudry, who took possession and was appointed receiver by the Court, until the expiration of its redemption which was until the 10th of August.

Shasta County—

The *Courier* of Sept. 1st, gives these items: Mr. L. A. Kelly has just completed a 4 stamp mill on one of the Jollie ledges, at Muletown, and will commence crushing rock immediately.... The assay from the two tons of Mammoth rock, spoken of last week, showed a result of \$202.... The Potosi is doing better than its most sanguine stockholders anticipated. After crushing thirty-five tons of rock, the superintendent partially cleaned up, with a result of \$1,987.18.... Among the many mining enterprises inaugurated of late in Shasta county, one of the most notable is the Horse Shoe Bend, on the Sacramento river, about thirty miles above here. At this place the river makes a bend of about three miles in the shape of a horse shoe. At the "heel" is a mountain 500 feet through. A company was organized last year for the purpose of tunneling through

this mountain. On Friday of last week, the head him was knocked out, and the waters of the Sacramento rushed, boiling, through the tunnel, leaving the old river bed with scarcely a sluice head remaining in it. By the success of this enterprise a strip of mining ground three miles in length, and from twenty-five to one hundred feet in width, is laid bare.

Sierra County—

The *Messenger* of 1st inst. has the following: Work on the Oro is progressing rapidly and satisfactorily. . . . The Good Hope company are still taking out rock for crushing at the Gold Bluff mill.

Tulare County—

The *Visalia Delta* of August 29th says: We hinted two weeks since at probable discoveries in quartz. We referred to discoveries of gold—amazingly rich—recently made on the tributaries of the Kawiah, of which more anon. Just at present we announce that parties have discovered in the immediate neighborhood of the new trail to Kearsarge an enormous ledge of the richest copper ever discovered in the State. The ledge stands up 800 feet high and more than twenty feet in thickness upon the face of an abrupt cliff, which is bisected from top to bottom with this immense metallic vein.

Tuolumne County—

The *Columbia Citizen* has the following: The Fair Play Quartz company, at San Andreas, are crushing rock with an anstrax which yields \$540 to the ton. . . . Correspondent of same says: The reports that reach here from the Mount Vernon mine, at Sugar Pine, are creating much talk. People don't seem to understand how a mine only just open can pay such large dividends. They don't understand that, had it not been for the fortunate circumstance of there being an unemployed mill close at hand, which enables the owners of the Mount Vernon to work their rock as fast as they take it out, without waiting to put up a mill of their own, this mine would, in all probability, have suffered the same fate as the Stewart and many other rich claims.

Yuba County—

The *Appell* of Sept. 4th, gives these items: We understand that the Pennsylvania mill cleaned up a good sized "brick" on Sunday, the amount being quite satisfactory to the owners. The rock crushed in the month of August averaged \$33 in the ton. The company has been for months drawing rock and water from a depth of 450 feet, and running an 8-stamp mill with a 15 horse power engine. Crushing under such disadvantages has been slow—seven or eight tons of rock a day. The new mill, with sixteen stamps, is expected to be in running order by the first of November, when forty tons per day will be crushed. . . . The Jefferson has stopped for twenty days to put in new machinery, which is on the ground. They cleaned up on Sunday \$12,000.

NEVADA.

Washoe—

The Gold Hill *News* of Sept. 1st, says: The shipment of bullion from Gold Hill, by Wells, Fargo & Co.'s express, during the month of August, amounts to 352 bars and 18 sacks, valued at \$692,134.28. To this should be added \$80,000 worth of bullion sent to Virginia assayers by the Yellow Jacket company, and shipped from the express office in that city. This aggregate \$772,134.28 as the August yield of Gold Hill mines, so far as assays indicate. This is the largest monthly shipment ever made; but it is confidently expected it will be the smallest of the last five months of 1886. The yearly average it ciphers exceeds nine millions of dollars. Is it necessary to call attention, in so many words, to the fact that the Gold Hill mines are giving out?

Reese River—

The *Reveille* has these items: The Metacom mill is progressing finely; the stone walls of the different compartments are nearly finished; the engine is set upon its bed of deep and solid masonry; and the brick for the reverberatory furnaces are being hauled to the ground. The mill will be a complete, well-arranged structure, and will be put in motion about the first of November, with a battery of ten stamps, six Freiberg barrels, and four furnaces. By that time there will be ready for reduction about 1,000 tons of ore worth \$125 per ton. . . . The incline on the Old Colony has reached the depth of nearly 300 feet. . . . A bar of 772 ozs. 990 fine, was the product of ore from the Providential mine. . . . We learned to day the result of the reduction of six and a half tons of ore from the Canada ledge, situated in Summit Canon, Twin River district. The ore was worked at the Keystone mill, and yielded a bar of bullion of the stamped value of \$897.58. . . . During last week, 4,500 pounds of ore, obtained in equal parts from Buell's locations on the High Bridge and El Dorado ledges, in the Philadelphia district, were taken to the Keystone mill for reduction. The yield was a bar of \$673—about \$300 per ton.

On the 13th of August, Messrs. Leach, Noon and Sides, of Austin, discovered a lode of extraordinary richness on Rattlesnake Canon, in Hot Creek district. It was named the Key-

stone. The ledge at the point of discovery shows a width of three feet, and is a mass of ore of the richest character, consisting of horn silver, metallic silver and stromeyerite, and is the most formidable rival to the famous Old Dominion ledge that has yet been found in the district.

A party of prospectors located several claims in the region southwest from Hot Creek district a short time since. The Orient, five feet in width, the Fairview, ten or twelve feet, and the Atlantic forty feet in width, were next discovered. Then the Crescent, fifty feet wide. Of the two latter, the "Notes of a Prospector" say: "These two lodes probably show more horn silver than any veins yet discovered. An assay of the Atlantic gave \$1,658 per ton. A new mining district was formed and called the Reville district, in honor of the journal which has done so much to make Central Nevada famous."

We quote a few lines from the editorial of same: "Nowhere in the world are such opportunities offered, as are now offered in central, southern and southwestern Nevada. Ledges of great size and in unlimited numbers, producing ore of a richer character than ever before recorded in the history of mining, exist on all sides, and invite capital with brighter promises and more certain assurance than it was ever before invited to any enterprise."

Correspondence of the *Bulletin*, says of the "Old Dominion" four miles south of Hot Creek. The ledge has fifteen feet of pay ore, assaying from \$200 to \$14,000 per ton. The owners have refused \$50,000 for the 1,400 feet in the claim.

Esmeralda—

The *Union* of Sept. 1st gives the following items: The Janata is now being opened in good shape and the mill refitted. . . . The Fal Kirkton now promises well. . . . Messrs. Brown & Pope have made a sale this week of their mine situated on Silver Hill, and known as the Olive Branch lode, to Messrs. Winters and O'Neal, for the sum of \$3,000 cash in hand. . . . Samuel B. Martin has a 40-stamp mill en route for the Silver Peak district.

Humboldt—

The *Register* of August 25th has these items: At Star City W. D. Robertson is vigorously prosecuting work in the Yankee—running night and day. Tunnel in 450 feet. . . . The American Basin company continues its work with unusual energy. Tunnel in 750 feet. All signs indicate that the ledge is near at hand. . . . In the Andy Johnson, located in Table Mountain, thirty miles south of Unionville, work has been rapidly progressing for the last six weeks. A tunnel run in on the vein a distance of fifty feet, exhibits a well defined gold-bearing lode of an average width of six inches, which pays handsomely throughout the entire vein, even with the slow process of an anstrax. Fifty feet in a very rich pocket has been struck, at which point a shaft is now being sunk following the vein. Judging from the general yield of the ore taken out of the tunnel, it is believed the ore from this pocket will pay seven hundred dollars per ton. Several tons of this character of ore are now on the dump.

Pahranaagat—

A letter to the Salt Lake *Vedette* says: The Illinois ledge is well defined, and crops out twenty feet above the surface on the top of the mountain. It can be traced through the range, and is from ten to thirty feet wide. The crop pings show rich in chloride of silver. There is a sufficient amount of pay rock in sight to run a mill for years. At Logan, three miles south of Silver Canon, Dr. Congar has erected a roasting furnace and a blast furnace. Capt. Dahlgren has also built a blast furnace. * * * My opinion is that this mining district is the richest I have ever seen—at least on top." It is 140 miles from Calville, 230 from Austin and 400 from Salt Lake City.

ARIZONA.

We clip the following from the *Gazette* of August 16th: The copper mines at Williams' Fork are turning out very rich ore. Much of this has been shipped to San Francisco. Smelting works have been recently erected, and are a success. Ore that will not bear the expense of transportation will be made into ingots on the ground. It is said that it will pay to ship coal from San Francisco for that purpose. The Planet company have already shipped several hundred tons of rich ore, and have some two hundred tons ready for shipment, taking out about sixteen tons of ore per week, which averages from twenty to seventy five per cent. . . . At the Challenge they are working twenty men, and take out ore, rich in gold and copper. . . . Martin & Co. are working Mineral Hill and other mines. They are putting up an engine and two smelting furnaces. They take out some eight tons per day, assaying from twenty to sixty per cent. . . . The Great Central company are working their Eliza mine, and have a fine prospect. A smelting furnace has lately been put in operation. About three hundred tons of smelting ore have been taken out, about half of which will, it is said, yield

sixty per cent., the rest from fifteen to twenty. Considerable ore containing blue silicate of copper, hitherto disregarded, is now found to give forty per cent. . . . Parties from New York are at work on the Carbonate. . . . In the Harcuvar district, about forty miles from the Colorado, rich copper ores are found. All work is suspended for the present, but operations will be commenced extensively in the fall. The ore is of very fine quality, quite easy to smelt. It assays from twenty to forty per cent. There is plenty of wood and water on the ground, and smelting furnaces are to be erected. . . . On the Cunningham lode a shaft has been sunk some one hundred and twelve feet, and it is rich in copper all the way down. About two hundred tons of copper have been taken out. Several other shafts have been sunk from twenty to thirty feet.

Twelve miles nearer the river are situated other promising lodes. At the Comet, about twenty tons of good ore, paying forty per cent. have been taken out.

IDAHO.

A correspondent of the Nevada *Gazette* says of the Poorman mine: A shaft has been sunk to the depth of 160 feet, where the vein is two and a half feet in width. In the center of the ledge is a vein of some twelve or fifteen inches, so rich in silver that the company are having it for shipment to Swansea, Wales, where it can be properly worked. They have out about nine tons of this ore, which is estimated to be worth \$10,000 a ton.

The Idaho *Statesman* reports the finding of a gold nugget in Alturas county, worth two hundred and thirty dollars. It is said to be the largest nugget ever found in Idaho, and was taken from a claim in Quartz gulch, between the celebrated Atlanta and Leonora ledges. Several smaller nuggets were found in the same claim.

The *World* of August 18th, says: The ledges at Banner (formerly called Silver Hill) in this county, are prospecting even better than was anticipated by the locators. On the Black Warrior a shaft has been sunk which is developing rock of the most extraordinary wealth. The Victoria and the Pacific are also highly spoken of.

COLORADO.

The Denver *News* of August 22d, has the following: The Colorado and St. Louis Silver Mining Company, organized under the laws of Illinois, with powers to operate in Colorado territory, owns 18,000 feet of choice silver property in the Snake River mining district. The capital stock of the company is half a million dollars divided into ten thousand shares of fifty dollars each. The company will immediately proceed to the erection of the necessary works for the reduction of their ores.

The Snake river silver mining region is undoubtedly among the richest ever discovered in the world. The average of the assays from there show a richness of the ores more than that of any other mines yet known.

MONTANA.

The Helena *Radiator* of August 4th says: A great deal of faith is left in the Dry Gulch by many parties, and a number of claims have recently changed hands at advanced rates. As soon as an abundant supply of water can be procured, we are confident that a large proportion of the claims in that gulch will pay fair dividends. With the present very limited supply several claims are yielding a good profit above expenses. . . . A safe with seven hundred pounds of clean gold, left Helena for New York, via Fort Benton and the Missouri river, a short time since. It was taken from one claim in a few weeks' work, besides enough to pay all the expenses.

Indian Creek correspondent of same, writing from Pahranaagat, July 29th, says: There are two companies now engaged in running drain ditches—one will be completed in seven or eight days, the other in about three weeks. Besides the creek mining there will be a considerable amount of labor done on quartz. There are several good lodes discovered now in this vicinity, namely, the Lincoln, Constellation, White Chief, Golden Crown, and Prairie State. On the two latter the proprietors are now engaged in getting out quartz; the Golden Crown is down thirty feet, and the Prairie State twenty three feet.

A letter from New York city (M. T.), to same, says: The placer diggings in this vicinity are being worked to a considerable extent, and found to pay exceedingly well. Mr. Woodson, the other day, took out of his discovery claim, in Cave gulch, nuggets weighing \$250 to the pan. * * Among the quartz leads, the Star of the West, owned by Wessel & Wilkes, is fully developed, and has a shaft sunk to a depth of fifty-five feet. The Bigler, Alta, Home Ticket, Little Giant, Silver Chord, Montana Chief, and Excelsior No. 2, are more or less developed. The rock is crushed or ground in anstrax. * * Wessel & Wilkes are erecting a splendid quartz mill on a small scale, running six stamps and driven by water-power, with an overshot driving wheel of eleven feet in the clear. . . . The mill of Ramley & Watson, I am

informed, they intend running in ten or fifteen days. . . . The Gaston & Simpson company are building a 30-stamp mill. The buildings cover an area of 300 by 400 feet. The engine and machinery are all on the premises, excepting the boiler. The stamps are each 650 pounds in weight, and the engine of 45 horse power. The company expect to have their mill completed on the first of September next. . . . Farrow Bros' anstrax cleaned up, after a run of seven and a half days, from 3½ tons of top rock, from the Bigler lode, the sum of \$350, being an average of \$100 per ton.

[The above, from Montana, was put in type for last week's issue, but was unavoidably crowded out for want of space.]

UTAH.

The *Vedette* of August 30th has the following items: We learn that there is considerable excitement about mines in the vicinity of Minersville, which is about half way between this city and the Pahranaagat mines. A Mexican has turned up who says he with others discovered and worked eight silver ledges in that vicinity fifteen years ago, but was driven off by Indians. A large number of prospectors have been out, and they report the discovery of some rich ledges. . . . Some excitement exist in regard to the City Creek mines. No one has reached the bed-rock yet, but on the surface and six feet down the rock pays from three to ten cents per pan, and they will have to dig down fifteen or twenty feet before striking the bed-rock. These mines are fourteen miles from Salt Lake City. . . . Yesterday we received a call from Dr. Davidis, who is engaged in constructing furnaces at the Cottonwood mines, about forty miles from this city. He informs us that he has a furnace that will consume about three tons of ore per day, nearly completed, and by next week he will turn out the first silver brick ever produced in Utah.

BRITISH COLUMBIA.

The *Colonist* has these items: From a merchant who left McElloch creek on the 13th instant, we have most exciting Big Bend news. Rich discoveries of gold bearing quartz have been made in the mountains adjoining McElloch creek, by Charles Smith, of Victoria, who is on his way down with specimens. The gold is plainly visible. . . . A vein of rotten quartz has been struck by Mr. Hicks, of New Westminster, in the same range of mountains. The gold is easily separated from the quartz by pounding. The whole country is excited over these important strikes, and a large number of miners are out prospecting. . . . The Discovery company, on McElloch creek, have tunneled into the hill and got a prospect of \$23 to the pan, coarse gold; \$280 in nuggets, the smallest weighing \$250, have been picked from the bed-rock in the same claim. The tunnel is in 130 feet. . . . The news is good from French creek. Back of the Shrop. Bailey claim, a company working in the bench got a prospect of \$19 from a few pans of dirt, in coarse gold. The whole bank has since been staked off by miners. . . . From Kootenay it is reported that Mr. Stronach, of Victoria, has realized a large fortune from mining in the hill. . . . We were shown lately a sample (2½ ozs.) of gold from the new diggings on the Lillooet river, twenty-four miles out of Douglas. The gold was sent down by Mr. J. Franklin, and is fine flour gold, very similar in appearance to that taken from the bar diggings on the Lower Fraser. . . . Mr. J. E. Edwards, just from Cariboo, exhibits a bar of gold weighing \$119.17—the product of three hours' ground sluicing, which he washed on a new creek, a tributary of the South Fork of Quenelle. The creek he called Cedar creek. He has also discovered another rich creek in the same locality. Several hundred men have started for the new diggings. Cedar creek is larger than Williams' creek. The Saskatchewan gold mines are attracting much attention.

HURRYING UP THE IRON HORSE.—Work upon the California end of the Pacific Railroad is now being pushed ahead, both day and night. It is found that the night shifts accomplish more, and with far less discomfort, than the day shifts. This is Californian, all over. Will not our Eastern friends make a note of it? Why not adopt the plan generally in such work. The sooner such an enterprise is finished, after any considerable investment has been made, the sooner will the capitalist get his money back. Night shifts on railroad work is an eminently practical idea.

TUNNELING THE MISSISSIPPI.—So many objections have been urged against bridging the Mississippi at St. Louis, that the railroad companies have determined to tunnel the "Father of Waters" at that point. The cost is estimated at \$3,000,000, and the time for executing the work three years. The tunnel will be a little less than a mile in length.

Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 23, 1866.

Mr. O. P. Truesdell will act as our Corresponding Agent and Solicitor, in the interior of this State, from this date. August 23, 1866.

Mr. E. F. Dewey is duly authorized to receive subscriptions and advertising, and transact business for this office. August 18, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. San Francisco, Jan 11th, 1866.

Mr. J. N. Hudson, is authorized to solicit subscriptions, advertising, etc., for the MINING AND SCIENTIFIC PRESS, in San Francisco, and to receipt for the same.

San Francisco:

Saturday Morning, Sept. 8, 1866.

IN MEMORIAM.—The flags of the several foundries and machine shops in this city, were flying at half-mast on Thursday last, in token of respect to our late fellow-citizen, Samuel Aitken, Vice President of the Vulcan Iron Works Company, who died during the previous night. The deceased, who was a native of Scotland, was one of the founders, and ever a most active member of the St. Andrew Scotch Benevolent Society of this city, a thorough mechanic, a highly valued citizen, and one held in especial esteem by his fellow craftsmen, and all who knew him. He died of consumption, at the early age of 43 years. His funeral took place yesterday, under the auspices of the Masonic fraternity. The Vulcan Iron Works Association, within less than two years, have been called upon to part with two of their most efficient members and leading officers—Paul Torquet, their former President, and now their second officer, Samuel Aitken.

NEW METHOD OF RAISING SUNKEN VESSELS. Mr. J. Begg, of Victoria, V. I., has made an important discovery which he claims to greatly cheapen and expedite the process of raising submarine bodies. He is now on a visit to this city negotiating for capital to assist him in proving to the public the immense value which is accredited to his invention by civil engineers and others who have examined his plans. He is confident of being able to raise ships of any size from a depth of one hundred fathoms. The cost of the apparatus required is comparatively small, and when once constructed, the inventor estimates that any ordinary ship can be raised from fifty to one hundred fathoms at an expense not exceeding \$1,000. Mr. Begg proposes to apply his invention first to the raising of the steamship *Labouche*, provided suitable inducements are offered. It is his intention to immediately apply for patents for the United States, England and France. He can be consulted at the Tremont House, in this city. We expect in a short time to give a descriptive illustration of this invention.

TO CORRESPONDENTS.—We have received communications from two different parties who have had considerable experience in the use of syphons, which we shall publish next week. A communication from "Sulphuret," is also received. The information he furnishes will be read with interest. A communication from Excelsior District is also on file for publication.

SHIP CHANDLERY.—Charles Witte, corner of Shasta and Michigan streets, Potrero Nuevo, has opened a ship chandlery. He furnishes all kinds of ship materials at same prices as are charged on this side of the Long Bridge.

A PROFITABLE WORK.—Horace Greeley is said to have already cleared \$110,000 from the first volume of his "History of the Rebellion."

NEW SOURCE OF WEALTH.

A very singular mineral deposit was discovered, some two years since, about four miles north of the town of Lincoln, in Placer county, which was first located for copper—some very rich carbonates and oxides, with occasionally native copper, being taken out. Subsequently, however, it was found to contain such a large proportion of gold that a stamp-mill was put up with the view of working it as a gold mine. The following paper, descriptive of this interesting locality, was recently read by Prof. Blake before the California Academy of Natural Sciences, under the head of

A QUARRY OF GOLD-BEARING ROCK.

The Baker or Whisky Hill mine of Placer county, a few miles from Lincoln, presents the novelty of profitable gold mining from a quarry in the slates, without any well defined quartz vein. A hill with a rounded outline is covered with rough outcrops of rusty slate over a breadth of 200 feet or more. A quarry at one end exposes the slate with a great variety of colors, from white to brown, red or black, the whole of it being soft and ochraceous, and in places stained green and blue, with carbonate of copper. These variegated slates are like those commonly known among California copper prospectors as "calico rock," and the ground was first located and prospected for copper.

It is evident that the formation consists of beds of iron pyrites (mudic), with a small but variable portion of copper pyrites, and that the rusty upper portions are due to the gradual decomposition of the sulphurets above the permanent water-line, or where the atmosphere has had access. Below the water-line we may not expect to find the rusty ochrey slate. This is shown also at a shaft which has reached the water. Blocks of mudic taken out of that shaft are interstratified with talcose slate. At one point in the bottom of the quarry a layer of green and blue carbonate of copper is found, and this is evidently the result of a gradual concentration of the copper from the decomposed ground above. The soft slate as quarried is trammed to a 5 stamp mill, with very coarse grates, and nearly forty tons are run through it daily. The pay is said to vary from two to twenty dollars, but the average is reported to be from five to six per ton.

It will be recollected that this result is obtained from a battery with open grates, instead of the usual quartz screens. It is but fair to estimate from the above, that with proper appliances, the average yield will be increased to \$10 per ton with improved machinery.

One-half of this property has recently been sold by Messrs. Treadwell, Harpending & Co., to Messrs. A. C. Peachy, M. Attwood, O. Hoffman, George D. Roberts and others. The price paid was \$175,000. This company is substantially the same as that which recently purchased the North Star and several other valuable mines in Grass Valley. This new company will soon erect a 40-stamp mill, in addition to their present machinery, with which they will be able to work at a profit the products of this mine, which do not pay over one dollar per ton. This will be crushing cheaper rock, and more of it, in proportion to the weight of machinery employed, and at equally as good profit, as are reported for the results of the celebrated Black Hill mine in Australia.

A similar deposit to the above is said to be found at Sanders' ranch, three miles north of Virginia, also in Placer county, and we learn from the *Placer Herald* that the agent of a New York company has recently purchased this mine, and has now on the premises and nearly erected the machinery for a 10-stamp mill, which will be in running order during the present month.

There is little doubt but that similar deposits will yet be found in numerous other localities along the foot-hills, throughout the entire length of the State. It is, doubtless, similar to that which occurs, but in less quantity, in the neighborhood of Telegraph City, Calaveras county. There is much reason for presuming that when a considerable depth is reached, these mines will yield copper instead of gold. At all events, the proprietors will soon pass through the decomposed portion of the vein, and have sulphurets and hard rock to deal with; but whether auriferous or cupriferous, they will doubtless, still continue to be profitably worked. It would be well for prospectors in the foot-hills to familiarize themselves with this peculiar class of mineral deposits.

SPECIAL COMMISSIONER FOR MINING STATISTICS.

Our readers will be pleased to learn that J. Ross Browne, Esq., who has recently been appointed by Secretary McCulloch a Commissioner to collect mining statistics on the Pacific Coast, has arrived, and is making preparations to enter actively upon the duties of his commission. By permission, we are allowed to publish the Letter of Instructions, furnished him by the Secretary of the Treasury, on his leaving the East for the field of his labors on this coast. The instructions, it will be observed, are very comprehensive, and call for a vast amount of labor—totally disproportionate to the amount of money appropriated therefor. The work which is to be undertaken is identified with the best interests of the miners, who should, one and all, interest themselves actively in aiding in the collection of the information called for, and which is to be essential to securing a proper understanding at the East with regard to the condition and wants of the mining public on this coast. The indefatigable energy of Mr. Browne as a traveler, his habits of close observation, taken in connection with his extensive acquaintance with the mines, will enable him to collect and lay before Congress and the country, at an early day, a vast amount of useful and practical information, such as will doubtless induce Congress to be more liberal in future in its appropriations for this purpose.

The country is also largely indebted to Secretary McCulloch, for the interest he has taken in securing this action in behalf of the great mining interest of the Pacific Coast. We shall, next week, give some information as to what has been done by other Governments, in the way of collecting mining statistics and the benefits which have resulted therefrom. We shall also soon be able to communicate more fully the plans which the Commissioner will adopt for collecting his information. In the meantime we would call the special attention of our readers to the general plan of the Commission, as set forth in the Letter of Instructions from Secretary McCulloch:

TREASURY DEPARTMENT, }
August 2d, 1866.

J. ROSS BROWNE, Washington, D. C.

SIR:—In entering upon your duties as Special Commissioner to collect mining statistics in the States and Territories west of the Rocky Mountains, it is important that you should clearly understand the objects designed to be accomplished by this Department and by Congress.

The absence of reliable statistics in any department of the Government on the subject of mines and mining in our new mineral regions, and the inconveniences resulting from it, induced Congress, at its last session, to appropriate the sum of ten thousand dollars for the collection of information of all kinds, tending to show the extent and character of our mineral resources in the Far West.

The special points of inquiry to which your attention will necessarily be directed are so varied, and embrace so large a scope of country, that it will scarcely be practicable for you to report upon them in full by the next session of Congress.

I entertain the hope, however, that you will be enabled by that time to collect sufficient data to furnish in the form of a preliminary report, the basis of a plan of operations by which we can in future procure information of a more detailed and comprehensive character.

The success of your visit to the mineral regions, in carrying out the objects contemplated, must depend in a great measure upon the judicious exercise of your own judgment, and upon your long practical acquaintance with the country, your thorough experience of mining operations, and your knowledge of the best and most economical means of procuring reliable information.

The Department will not, therefore, undertake to give you detailed instructions upon every point that may arise in the course of your investigations. It desires to impress upon you in general terms a few important considerations for your guidance, leaving the rest to your own judgment and sense of duty.

1. All statistics should be obtained from such sources as can be relied upon. Their value will depend upon their accuracy and authenticity. All statements, not based upon actual data, should be free from prejudice and exaggeration.

2. In your preliminary report, a brief historical review of the origin of gold and silver mining on the Pacific Coast would be interesting in connection with a statement of the present condition of the country, as tending to show the progress of settlement and civilization.

3. The geological formation of the great mineral belts and the general characteristics of the placer diggings and quartz ledges, should be given in a concise form.

4. The different systems of mining in operation since 1848, showing the machinery used, the various processes of reducing ores, the per centage of waste and the net profits.

5. The population engaged in mining, exclusively and in part; the capital and labor employed; the value of improvements; the number of mills and steam engines in operation; the yield of the mines worked; the average of dividends and average of losses in all the operations of mining.

6. The proportion of agricultural and mineral lands in each district; the quantity of woodland, facilities of obtaining fuel, number and extent of streams and water privileges.

7. Salt beds, deposits of soda and borax, and all the valuable mineral deposits.

8. The altitude, character of the climate, mode and cost of living, cost of all kinds of material, cost of labor, etc.

9. The population of the various mining towns; the number of banks and banking institutions in them; the modes of assaying, melting and refining bullion; the charges upon the same for transportation and insurance.

10. Facilities in the way of communication, postal and telegraphic lines; stage routes in operation; cost of travel; probable benefits likely to result from the construction of the Pacific Railroad and its proposed branches.

11. The necessity for assay offices and public depositories; what financial facilities may tend to develop the country, and enhance its products.

12. Copies of all local mining laws and customs now regulating the holding and working of claims.

13. The number of ledges opened and the number claimed; the character of the soil, and its adaptation to the support of a large population.

Upon all these points it is very desirable that we should possess reliable information. Whatever tends to develop the vast resources of our new States and Territories, must add to the wealth of the whole country.

I am extremely solicitous that the information collected should be ample and authentic.

Trusting that you may be enabled to make such a report as will be of great public utility, and at the same time promote the interests of the miners to whose industry and energy so much is due,

I am, very respectfully, your obedient servant,
(Signed.) H. McCulloch,

Secretary of the Treasury.

All communications with regard to the commission should be addressed to J. Ross Browne, Special Commissioner on Mining Statistics, San Francisco, Cal.

[Reported for the Mining and Scientific Press.]

California Academy of Natural Sciences.

REGULAR MEETING, Monday, Sept. 3, 1866.

President in the Chair.

Thirteen members present.

Minutes of previous meeting read and approved.

Mr. John Swett was elected a resident member, and Messrs. John Spier, B. K. Norton, and B. P. Avery were nominated for resident membership.

Donations to the Library.—From Dr. F. Mueller many valuable publications upon the Botany of Australia.

Donations to the Cabinet.—Two specimens of Fishes from Dr. Kellogg and Dr. Behr. Specimen of Fungus, *Polyporus ignarius*, from Dr. Kellogg.

Dr. Kellogg called the attention of the Academy to the remarkable specimen of Fungus presented by him, *Polyporus ignarius*, which was found growing upon the Bay tree, *Oreodaphne Californica*; and gave a very interesting description of Fungi in general; alluding particularly to the destructive effect of many species, some producing the dry rot in ships, others destroying buildings, producing the disintegration of mortar in masonry, and seriously affecting the health of, or destroying animal life.

Dr. Kellogg also remarked the use of some species of Fungi for food, particularly by the natives of Australia, who regard them with especial favor for that purpose. The rapid growth and poisonous effect of certain species of Fungi were mentioned, also the use made of some species in the arts.

Professor A. Wood, who has recently returned from a botanical exploration of Oregon, being present as a visitor, was invited to speak, and gave the following very interesting narrative of the recent ascent of Mount Hood, by himself and a party of gentlemen:

On the 20th August last, in company with Dr. Atkinson, of Portland, and the Rev. J. Deardorff, of Walla Walla, and three others, I stood upon the summit of Mount Hood in Oregon. From our last camp on the summit of the Cascade Range to this point, the summit of Mount Hood is eleven miles of constant and wearying ascent, at angles about as follows: Five miles in the first, 12 to 15°; two miles to eternal snow, 25 to 30°; one and a half miles to the gap in the rim of the crater, about 45°; the remaining ascent traversing the ancient crater, nearly or quite 60°! The day was cloudless; a strong, warm wind from the southeast softened the surface of the snow and favored our ascent, although it gave us much anxiety lest it should loosen some of the tremendous acclivities of snow and overhanging drifts from above us.

Starting from camp at daylight, on horseback four miles, we arrived at the top at a quarter past two P. M., in nine and a half hours.

Our apparatus for measuring the heights con-

sisted of two barometers (aneroid), a thermometer, a tin cup and spirit lamp. Both barometers failed us, the index ceasing to turn after something more than a complete revolution on the dial. They were not made for such heights. But we made good use of our thermometer.

The ascent was exceedingly difficult, and not without danger. The long summer heat had undermined the snows, causing their surface to conform more to the ruggedness of the mountains, and the slides had opened chasms of invisible depths across our path. We looked down into several of these chasms and saw that the massive walls below consisted of solid, blue ice, and terminated at length in the blackness of darkness. We could hear the noise of running water, apparently in torrents. One of these chasms was unavoidable—and must be crossed. Its transverse length was nearly a mile, and its width from ten to one hundred feet. By the aid of a rope, forty-five yards in length, and five pike-poles, each eight feet, we crossed (of course at the narrowest place), and afterward by ropes and poles, tugging, ponting, dizzy, we dragged ourselves up to the terrific crest of this Mountain Monarch.

The summit area is of very limited dimensions—a crescent in shape, half a mile in length, and three to forty or fifty feet in width. It is a fearful place, as it is the imminent brow of a precipice on the north, sheer down not less than a vertical mile of bare columnar rock!

This height is lifted so far above all other heights (except the four distant snow-clad peaks to the north and Mount Jefferson to the south) that the country beneath seemed depressed to a uniform level, and the horizon retreated to the distance of more than two hundred miles, including nearly all Oregon and Washington Territory. The sublimity and grandeur of that view I must leave to the imagination of the reader. A cañon of enormous depth plunges down along the southeast flank, and is filled in part by a glacier evidently in motion, and having below a very abrupt termination. Terminal and lateral moraines mark its course, and a torrent of water issues from beneath. While we delayed here, an avalanche of rocks, an immense mass, started by the wind, thundered down the left wall of this cañon several thousand feet, and its track was marked by a trail of white smoke.

On the west side of the ancient crater, at the base of a vast craggy pinnacle of rocks (a portion of the ancient rim of the crater), is still an open abyss, whence issue constantly volumes of a strongly sulphurous smoke. That there is also heat there is evident from the immense depression of the snow about this place—depressed not less than a thousand feet below the snows which fill to the brim other portions of the ancient crater.

As I have already stated, we found our barometers useless in these vast heights, and were reduced to the use of the thermometer alone. By this we learned the boiling point of water at four several stations, as follows: At the camp, the summit of the Cascade Range, it stood in boiling water at 204° Fah. At the upper verge of the forest, it indicated 195½°. At the highest reach of all apparent vegetation, 192°; and finally at the summit, where, after the most persevering and determined efforts (on account of the violence of the wind), we at length, by means of a spirit lamp, changed a portion of snow to a cup of boiling water, the mercury stood firm in the cup at 180°! These several results being changed to feet of elevation, according to the rule universally approved in such cases, indicate heights as follows, viz: At the summit of the Cascade Range, and foot of Mt. Hood proper, 4,400 feet; at the limit of forest trees, about 9,000 feet; at the highest limit of vegetation, 11,000 feet; at the summit of the mountain, 17,600 feet.

We earnestly hope that these results may be hereafter tested by the barometer; and by triangulation. Until then, we must adopt the estimate here made, as the height of that sublime peak, and accord to Mount Hood the distinction of being the highest land in the United States, if not the highest upon the North American continent.

Adjourned.

T. H. BLOOMER, Rec. Sec'y.

CHANGE IN PROFESSORSHIPS.—Doctor J. Newton Brown has resigned the Professorship of Anatomy in the Toland Medical College. The Faculty have chosen Dr. L. C. Lane, late Professor of the Institutes of Medicine, to fill the vacancy. Dr. Robert Oxland has also resigned the Professorship of Chemistry, and Dr. Thomas Price has been elected to occupy that Chair.

THE YUBA RAILROAD.—Work upon this road is being rapidly pushed ahead. The cars are already running on the north side of Bear river, and the track is nearly all graded to the Yuba. This road will be vigorously pushed on to Oregon.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, new and important inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

NEW INVENTIONS.

GRAIN ELEVATOR.—It is worthy of note to observe that California inventors are turning their attention to improvement in agricultural machinery. We have already noticed quite a number of valuable inventions in this direction. W. D. Overbiser, of San Joaquin county, has recently devised an important application of horse power to the handling of grain, a full description of which we append from the *Stockton Independent*. The invention appears to be eminently practical, and is one which we should think must come into general use both here and in the Atlantic States:

It consists of a stout pole or scantling, five or six inches in diameter and from thirty to thirty-five feet long, with a cross head three feet long securely fastened to it, and with an iron pin and collar at the lower end of the pole fitting into an iron socket on the foot. The whole is kept in position by four guy ropes fastened in the usual manner. There is a large single pulley fastened to a stake driven in the ground about seventy-five feet from the derrick; two single pulleys are fastened at the foot of the derrick and two similar ones attached to the cross head. Through these pulleys is a rope to which is attached two of Myer's Patent Hay Forks or Elevators. On the ground are two frames, with rollers to prevent the rope from rubbing too much on the ground. The continuous rope passed through the pulleys has both ends terminate on the stack, and each end of the rope is attached to one of the patent elevators, with a man to handle and guide each. A horse is then attached to the rope near the pulley on the ground seventy-five feet from the foot of the derrick, and upon drawing towards the stack the fork on one side of the derrick is loaded, elevated and moved to the place where the load is required, and then, by a slight pull of a string discharged—the load falling upon the table of the threshing machine. The other fork, in the meantime, is drawn back and made ready for another load, when the horse is turned round and, pulling the contrary way, hauls the newly loaded fork up to the derrick, when it is discharged as before. By this means, in three days and a half, two men supplied Overbiser & Fairchild's 36-inch cylinder thrasher, with sufficient material from the stack to yield 4,000 bushels of wheat. They are now threshing at Mr. Shafer's, near Waterloo, where this grand new labor-saving apparatus can be seen in operation. It saves the labor of eight or ten men—a result which will make every farmer's wife utter expressions of gratitude to the inventor, as not only on the field but likewise in the kitchen will its benefits be experienced.

A USEFUL INVENTION.—Mr. M. M. Cook, hose manufacturer of this city, has invented a very ingenious contrivance for leaky or burst hose, the application of which cannot fail of being of great benefit to the Fire Department.

PATENTS RECENTLY ISSUED.

QUARTZ CRUSHER.—S. B. Pike, assignor to himself and Robert H. Vance, San Francisco, Cal.: 1 claim, 1st, The use of the guides, L L, when arranged as described to insure the passage of all the ore under the rollers, substantially as herein specified and for the purpose set forth. 2d, The employment of the horizontal bar, H, hub, I, and slotted boxes, K K, or their equivalents, for the purpose of allowing the rollers, F F, to accommodate themselves to the varying amount of ore on the revolving plate, B, and die, C, substantially as described, and for the purpose as set forth. 3d, The gutter, D, operated by the binders, Y Y, and keys, X X, in combination with the revolving plate, B, rollers, F F, guides, L L, annular die, C, and scraper, when constructed to operate in the manner specified and for the purposes set forth. This machine was illustrated in the *MINING AND SCIENTIFIC PRESS* of December 2d, 1866.

TEA-POT.—Robert Carter, San Francisco, Cal.: 1 claim, 1st, The bottom, N, N, figure 2, of the inner case, H, figure 2, being formed convex toward E, figures 1 and 2, the bottom of the outer case, D, figures 1 and 2, for preventing the violent ebullition of the water contained in K, K, K, figure 2, when boiling, as would ensue if the bottom of H, figure 2, was flat. 2d, And without confining myself to any particular shape, size, or material, I claim the general combination of the two cases, with their surroundings and appurtenances, as in this specification shown, for the purposes described, and in the manner substantially herein set forth.

APPARATUS FOR TREATING ORES.—J. C. Coult and J. Roach, San Francisco, Cal.: We claim, 1st, The pipe, C, connecting with a furnace and having a wide opening entering the condenser, E, thereby imparting a greater distribution of the fumes as they enter said condenser or water-tank, and equally spreading the fumes over the water, substantially as described and for the purposes set forth. 2d, The tank, B, with an inclined bottom, and the partitions, b, b, b, in the inverted tank or cover of the same, and the adjusting screws, F, F, attached thereto, substantially as described and for the purposes set forth. 3d, The perforated diaphragm, G, having sufficient openings to equal the opening of the pipe, C, where it enters the condenser, E, as before stated, likewise the water bottom, G, and G, over which the fumes collect and are drawn into a fan or pump, thereby bringing the fumes again in contact with the water for a long distance and extracting all that it may be desirable to collect before allowing an escape into the chimney, substantially as described and for the purposes set forth.

SEWING MACHINE.—Joseph C. Tucker, San Francisco, Cal. I claim, 1st, The combination of a rocking perforating needle-carrying arm with one or more adjustable perforating needle-carrying arms, substantially as described; 2d, The combination of the lower thread-carrying looper, working in fixed bearings, with one or more loopers, the bearings of which are capable of being adjusted, substantially and for the purpose set forth; 3d, The combination with the rocking arm of a sewing machine, provided with a perforating needle, of one or more adjustable needle-carrying arms above the table, and a looper working in fixed bearings below the table, and one or more loopers in adjustable bearings for making parallel lines of stitching, substantially as described; 4th, In combination with the rocking arm of a sewing machine, carrying a perforating needle and provided with one or more adjustable needle-carrying arms, I claim a stationary arm provided with one presser held in fixed bearings and one or more in adjustable bearings, substantially as described.

QUARTZ MILL.—Albert Moore, San Francisco, Cal.: 1st, In combination with the radial feeding furrows, B, B, B, I claim the plain surface beyond the ends of the furrows, substantially as described for the purposes set forth. 2d, The manner of breaking the joints in constructing and laying the shoes and dies, so that no continuous straight lines shall be employed from the feed center of the miller to its circumference, substantially as described and for the purpose set forth.

A NEW WATER FAUCET.—Mr. C. H. Stone, of this city, has invented a faucet or water cock, which appears to be quite novel in its construction. It is described as follows: "The novelty consists in the plug being conical, with the butt end downwards, and the application of hydrostatic pressure to the base of the cone, forcing it upwards into the chamber, and holding it there with a pressure equal to the resistance. At the back of the plug is a small groove, which allows water to pass downwards into a brass cup, which is screwed on to the lower part of the faucet, and covers the end of the plug. At the foot of the plug is a small spiral spring resting on the cup sufficiently strong to hold the plug tightly in its place, when there is no liquid bearing it down. When in use, whatever liquid is pressing upon the plug finds its way down the small groove into the cup and presses the plug with as much force upwards from the cup as it does downwards, whether the tap is open or shut."

NEW AMALGAMATOR.—We published an item some time ago, in relation to a new amalgamator then being made at Sacramento. We notice by the papers of that city that the machine has been finished and tested at the foundry of Goss & Lombard. The patentees, Senatz & Knowlton, who have been experimenting on a small scale for some months, think their new machine will save more gold from tailings than any now in use. It consists of two slaking tables, each twenty-six inches wide and four feet long. These tables are worked with a sliding motion, and to each is attached a stationary frame, from which project downward, nearly touching the bottom of the table, a large number of iron teeth or riffles. The tailings, after being brought in contact with the quicksilver of the first table are carried along with the stream of water to the second, which is also supplied with quicksilver. Out of 300 pounds of tailings, taken at random from the mill site of the Ceresus Company, near Auburn, in Placer county, about a dollar's worth of gold was extracted. If the machines will extract gold at the same rate, from the tailings of the quartz mills now running in various parts of the State, the invention will prove valuable.

CUTTER FOR WOOD-PLANING MACHINES.—Charles Livingston, Redwood City, Cal.: I claim the arrangement of the cutters, C and G, upon a suitable cutter-head, having a wedge-

shaped center-piece, B, substantially as and for the purpose herein described and set forth.

GOLD SEPARATOR.—Chas. F. Testmon, Portland, Oregon: I claim three things, the first is the process of drying dirt in the boxes, a, a, and b, b, by means of the fire, e; the second is the application of the springs, o, o, to the roller, m; and the third is the method of constructing the amalgamating pans, r, r, and procuring thereof the gold dust in the quicksilver pockets by means of the continued revolution of the stirrer, q, q.

Patents can be obtained for citizens on this Coast, through the *MINING AND SCIENTIFIC PRESS* PATENT AGENCY, in one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of no California inventions, and the benefit arising from no explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. DEWEY & CO., Patent Agents, 505 Clay street, San Francisco.

New York Metal Market.

We condense the following from Winterhoff's New York Metal Circular of August 3d, 1866, as follows:

The modified Tariff bill does not affect metals. In the beginning of July, while the fate of the Tariff was uncertain, a little speculation prevailed, but immediately afterwards business became very dull. The successful operation of the Atlantic Telegraph tends also for the moment to unsettle matters. The autumn trade has not yet commenced, but it promises to be satisfactory, as the prospect for the grain and cotton crops have improved.

Tin.—A moderate demand for Straits advanced the price from 18¾ to 19½ and 20c. Banca is quoted 20@20½c; English, 19½c.—all gold. The importations for July amount to 3,300 slabs Straits and 20 tons English. Present stock, 23,600 slabs against 6,050 slabs, on the 1st of August, 1865; 15,700 in 1864, and 21,800 in 1863.

Spelter.—With the prospect of peace in Germany, the price of foreign has declined again, and may be quoted at 6¾ to 7c. for Silesian and Stolberg. The demand for consumption seems very small. The importation for July was 125 tons. The domestic article appears only in small quantities, and the price is nominal—11½ to 12c. currency.

Copper.—The non-passage of the Tariff created a good deal of disappointment among the Lake companies, and they were eager to sell. The price has declined to 31c. for all kinds. This low rate attracted attention, and about a million of pounds were sold on speculation. It may be quoted at 31 to 32c., with a steady demand. Several parcels of foreign copper, lately imported, are held out of the market.

Lead.—In the first two weeks of July we had a speculative demand, based upon the war in Europe and the probable higher duty, and 2,000 tons changed hands at an advance of ¾ to ½ cent. Ordinary Spanish was sold at 7¼ to 7½c., and better kinds of English at 7½c. With the prospect of peace a few forced sales of common German have been made at 6¾c; ordinary brands at 6½ to 7c; English, suitable for white lead, is held a great deal higher. The importations for July amounted to 820 tons, and the deliveries for consumption to 1,100 tons. The stock is 3,800 tons, against 4,300 tons on the 1st of August, 1865; 9,000 tons on the same date, 1864, and 9,100 tons on the same date, 1863.

Gold.—Declined during the month from 154 to 147 per cent.

STRANGERS visiting San Francisco can use the Baglar Proof Vault of the CALIFORNIA BUILDING, LOAN AND SAVINGS BANK, California street (one door from Sansome street), for the temporary deposit of Gold Dust, Coins, Bonds, etc., at a small monthly rent, according to the value of the property deposited, for which the Company will be accountable.

9v12-1m

THOMAS MOONEY, President.

TOWNE & BACON, Print—

Stock Certificates, Assessment Receipt Books, Transfer Journals, Circulars, Hand Bills, Cards, Billheads,

And every kind of Job Work that may be desired. A NEW ARTICLE OF TAGS FOR GROCERS' USE. 16v12 536 Clay street, opposite Leidesdorff.

OIL!

OIL!!

OIL!!!

—OUR—

MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

Dell, Cranma & Co.,

511 1-2 and 513 Front street, San Francisco

IMPORTERS OF

COAL OILS AND LAMP STOCK.

(2v12-3m)9p

AN IMPORTANT DISCOVERY IN SURGERY—INSTANTANEOUS ARREST OF HEMORRHAGE.—Dr. Richardson, who succeeded in perfecting the means of causing local anesthesia, by means of an ingenious instrument for dispensing the fluid over the affected part in a very fine spray, under which surgical operations can be done without pain to the patient, has made an application of the same proceeding to the immediate and total arrest of hemorrhage. He had observed in the first instance, that chilling in a high degree, as by the anesthetic spray, prevents all venous and capillary and even arterial hemorrhage. He was therefore led to think that if the ether used for the first purpose, could be supplemented by a styptic (any substance possessing a high astringent power), which would spray evenly with it, a highly important desideratum in surgical practice, would be supplied. Accordingly he devised a

Zy-o-Styptic Ether Spray.—It consists of a solution of ether charged to saturation at a low temperature with tannin, and afterward with zlyoidioe. This compound ran easily through the spray tube and produced good local anesthesia. In order to test the styptic characteristic of this preparation, he directed the spray upon a mass of previously defibrinated blood. In five seconds the whole mass of it was thoroughly solidified.

But even this effect was slow compared with what took place in blood newly drawn containing fibrine. In this case it coagulated in a second.

This styptic ether can not only be applied with certain effect to open wounds, but as successfully in the case of those alarming medical events, hemorrhages of the uterus.

This styptic ether will become of standard service to the medical practitioner, to surgeons on board ship, and to army surgeons. On the battle-field and under the instruction of a surgeon, it could be used by an orderly, so as to instantaneously arrest hemorrhage.

A PORTLAND tax bill of the date of 1834, scorched and partly burned, was picked up in Brunswick after the late fire in the former city, having been blown twenty-seven miles from Portland to Brunswick.

PREFER solid sense to wit; never study to be diverting without being useful; let no jest intrude upon good manners, nor say anything that may offend modesty.

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED

Self-Adjusting Piston Packing.
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel.

Giving the greatest power, at lower cost, than any Wheel in use. There are over 1,500 running, giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver.

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,
8v13 1y Stove Store, No. 125 Clay street, below Davis.

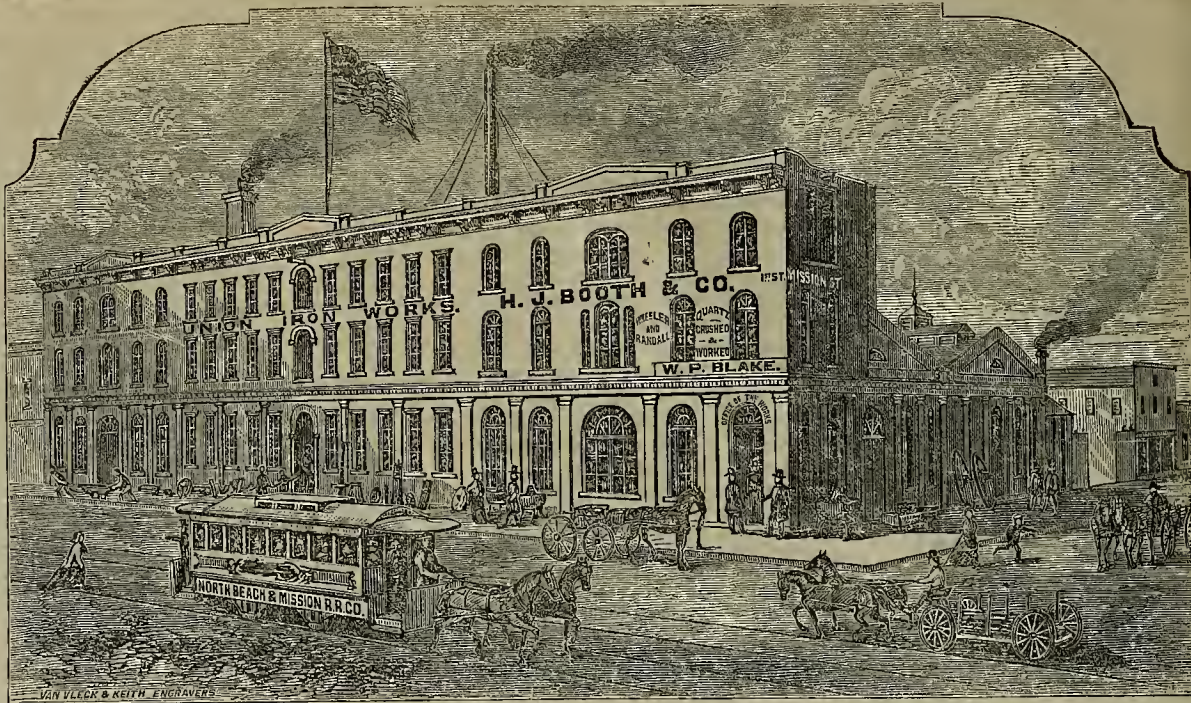
T. G. DURNING. J. F. FISHER.

PACIFIC FILE FACTORY,
No. 53 Beale Street,
Between Market and Mission streets, San Francisco.

FILES RECUT AND WARRANTED AS GOOD AS NEW, or no charge. The only establishment in the State. We also manufacture Reamer and Taper Sections.
8v12 1y **DURNING & FISHER, Prop'rs.**

LEWIS COFFEY & RISON,
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment in the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mill Mining Pumps, all kinds of Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, Serew and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES. Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS. Locomotive, Flue, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS. The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's Improved flat bottom pan, Beldin's pan, Vetch's tub, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT.

H. J. BOOTH & CO.

Vulcan Iron Works Company

[ESTABLISHED 1850.]

First, Natoma and Fremont Streets.

IRON FOUNDERS,
Steam Engine and Locomotive
BUILDERS,

Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of new shops on Fremont Street, doubling the capacity of the original establishment. Their facilities for turning out machinery promptly and efficiently, are now unequalled in the State. Their Boiler Works have also been enlarged correspondingly.

The Company are prepared to execute orders for all classes of Machinery and Boiler Work, such as

Mining, Steamship, and Steamboat Machinery,

Railroad Machinery, Flouring Mills, Quartz Mills, Car Trucks, Sugar Mills, Car Wheels, Saw Mills, Hoistings and Irons; and

Manufacturing Machinery of Every Kind.

Sole Manufacturers of

HEPBURN & PETERSON'S REDUCING PAN AND AMALGAMATOR

BEATH'S AMALGAMATOR;

HESE & MOORE'S IMPROVED HOWELL QUARTZ CRUSHER;

BAUX & GUIOD'S AMALGAMATOR AND SEPARATOR;

FAUCHERY'S QUARTZ GRINDER AND WATER WHEEL;

JONVAL'S IMPROVED WATER WHEEL;

LEFFEL'S AMERICAN DOUBLE TURBINE WATER WHEELS.

STEVEN'S PISTON PACKING RINGS.

They have also a large assortment of Patterns for Pump and Hoisting Machinery, Gearing, Pulleys, Water Mill Irons, Hydraulic and Serew Presses, Retorts, Furnaces, Grate Bars, House Fronts, Ornamental Fence Posts and Paving, Stove Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best Hard Iron. Quartz Screens of Russia Iron Punched to Order.

27

GEORGE T. PRACY,
MACHINE WORKS,

Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL

And Quartz Machinery, Printing Presses,

—AND—

MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

Special attention paid to Repairing. 6v 3

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERRECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12 3m

J. F. FLYNN. HENRY FRANCE.

FLYNN & FRANCE,

EMPIRE FOUNDRY,

221 Mission street, below Beale, San Francisco, PRACTICAL IRON FOUNDERS, having unequalled facilities for the manufacture of LIGHT FANCY CASTINGS, particular attention will be given to this department. We manufacture School Seats and Desks, Agricultural Implements, Railings, Ship Castings, Stake Irons and all other kinds of Heavy and Light Castings, with dispatch. The patronage of the public is respectfully solicited. 24v12 1y

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J. O. HANSCOM } **HANSCOM & CO.,** { T. PENDERGAST.
H. S. SMITH. W. W. HANSCOM.

Aetna Iron Works!

Southeast corner Fremont and Tehama streets, SAN FRANCISCO.

Practical Machinists and Iron Founders,

MANUFACTURE

STEAM ENGINES,

QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS,

Dunbar's Improved Self-Adjusting

PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,

The best of the kind now in use in this State or anywhere else

Wheeler & Randall's New Grinder and

Amalgamator,

Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,

Giving greater power at lower cost, than any wheel in use

Send for one of our circulars, giving full tables.

All Wheels warranted to give the power as set forth, or the money will be refunded.

Sole makers for this coast of the "Pendergast

White Iron Stamp Shoes, and Dies.

None genuine unless obtained from us. Every one warranted.

Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited. 19v12

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Mining

Pumps, Amalgamators, and all kinds of

Machinery.

Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco. 3v 3y

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UNION IRON WORKS,
Sacramento.

WILLIAMS, ROOT & NELSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired

with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets, 14v11 SACRAMENTO CITY

SAN FRANCISCO

Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,

Manufacturers of

Marine and Stationary Engines

Quartz Machinery, Saw, Flour and Sugar Mills, Mining

Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—

Wine, Cider, Cotton and Tobacco Presses

of the latest Improved Patterns

Brodie's Improved Patent WIND BLAST SEPARATOR,

for Dry Crushing; Baux & Guidel's Amalgamator and

Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and

Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston

Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

MACHINERY, OF ALL DESCRIPTIONS,

Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.

6v11 1y **DEVOR, DINSMORE & CO**

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The Metric or Metrical System.

This system is now adopted in nearly every scientific writing, whether it be in a periodical or book. It is compulsory in many, and used in all the continental European nations, and it is legalized by law in England and the United States. The bill introduced in Congress by the Hon. John A. Kasson, M. C. of Iowa, and which is now a law, looks to the early expulsion of all other weights and measures; and every one who remembers his schoolboy troubles between Troy weight and apothecary's weight and avoirdupois weight, and between dry measure and beer measure and wine measure, and the general perplexity of the tables, will be thankful it is so. But we will have a duty to perform. Old and young must make themselves thoroughly acquainted with the system. It is exceedingly easy of comprehension. It is wholly based upon the meter, a measure of length equal to 39.37 inches. The measure of capacity is the liter or contents of a cubic decimeter. The measure of weight is the gram, which is the weight of a cubic centimeter of distilled water. The measure area or superficies is the are, which is one hundred square metres. These four—the meter, the liter, the gram and the are—are the units of the system, and are equivalent to our present weights and measures as follows: The meter, as already stated, is 39.37 inches long, the liter contains 1.0567 wine quarts; the gram weighs 15.432 grains avoirdupois, and the are contains 119.6 square yards. The system is decimal, and quoting from an Atlantic contemporary, "It can be fully mastered and learned by any one in thirty minutes. First, it is necessary to learn the meaning of the four units—

Meter, the unit of length.
Liter, the unit of capacity.
Gram, the unit of weight.
Are, the unit of area.

Then it is necessary to learn the meaning of four Greek and three Latin numerals as prefixes. The Greek are:

Deka 10
Hecto 100
Kilo 1,000
Myria 10,000

The Latin are:

Deci One-tenth.
Centi One-hundredth.
Milli One-thousandth.

This is the whole table. In these eleven words is comprised all that man or child need learn. Everything else follows of its own accord. Kilometer, 1,000 meters; Centi-meter, the one-hundredth of a meter; Myriagram, 10,000 grams; Milligram, the one-thousandth of a gram; Hecto-liter, 100 liters; Deci-liter, the one-tenth of a liter; Hecto-are, 100 ares; Centi-are, the one-hundredth of an are, etc., etc. After the units and prefixes are known, all that is required is to put them together so as to designate the sun, either rising or descending, of the unit you wish to express.

COLORED STARCH is the latest and greatest novelty of the day in Paris. It is made in pink, buff, the new mauve, and a delicate green, and blue will soon be produced. Any article starched with the new preparation is completely colored—dyed, we should have said, but as it washes out, and the garment that was pink to-day may be green to-morrow, and buff afterwards, we can hardly say "dyed." It is intended especially for those bright but treacherously colored muslins that are costly, wash out and perplex their owners. If the pattern has been mauve, they only need the mauve starch; if green, green starch; and they can be rendered one even and pretty shade, thus becoming not only wearable again, but very stylish. White anti-macassars, or lace curtains, may also be colored in the same way, and infinite variety afforded.

Pacific Law and Collection Office

—OF—

W. H. ALLEN,

Attorney and Counsellor at Law,
Principal Office at Rooms 11, 12 and 13 Amory Hall Building,
502 Montgomery Street, San Francisco, Cal.

Agencies at every City and Town on the Pacific Coast. Collections guaranteed with or without suit in all the cities and counties of the Pacific and Atlantic Coasts.
Legal advice will be given free of charge until after 1st January, 1887. Postage on letters asking advice must be paid both ways. 8v12-3m

A Rare Chance!

A Splendid Business in Alameda County.

FOR SALE AT A GREAT BARGAIN,
400 ACRES OF LAND,
INCLUDING

Landing, Wharf, Three Capacious Warehouses,

Capable of holding 12,000 Tons, which amount of grain was stored and shipped the past year. Connected with said business there is an extensive Lumber Yard; sales during last year, two million feet, which sales, and the entire business, can be largely increased.

The above is a rare opportunity for parties desirous of engaging in an active business that will pay a large dividend on the investment. Satisfactory reasons given for selling, and all information desired can be obtained on application by mail, or otherwise, to

G. F. SMITH,
Notary Public and Searcher of Records, office "Beatty House," San Leandro. 8v12 1m



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.

International Hotel,

JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents 2v12 P. E. WEGANT, Proprietor.

INTERNATIONAL HOTEL.

K Street, between Third and Fourth,
SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Hotels in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and nicely ventilated. No expense has been saved to make it comfortable and pleasant for guests.

Price of Rooms very low. Meals, 25 cents. 8v12-6m B. EISENMENGER.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals 25 cents.
Board, per week \$4.00
Board and Lodging, per day 1.00
Single Rooms 50
Railroad Ticket Office and State Office on first floor. 7v12-3m A. J. SENATZ, Proprietor.

Rheumatism!!

READ IT! READ IT!!

SACRAMENTO, April 16 h. 1886.
H. ROWMAN—DEAR SIR: THIS IS THE FIRST WRITING I have done in two years, and it affords me great pleasure to be able to use my pen in the service of those who are suffering, as I have suffered, by stating the following facts:

I have for two years and upwards been afflicted with CHRONIC RHEUMATISM, and until a few weeks ago I have never found anything that afforded me any relief. For three months of the time I was unable to feed myself, and for the last five months my arms have been so bent that I have not been able to dress myself. I was five months at the Warm Springs at San Luis Obispo, and three months at a Hydrophatic Institute in Stockton, and I have been under the care of six different physicians, in the vain hope of relief. About four weeks ago I was induced by a person who had been cured by it to try a bottle of RICHARD'S REMEDY FOR RHEUMATISM, and in less than twelve hours I experienced great relief. In a few days I was enabled to straighten out my arms, and I have been getting better and gaining in strength and flesh ever since. I have now the complete use of all my limbs, and for the first time in two years, I am out of pain. I do feel for those who suffer as I have suffered, and if they will take my advice, they will lose no time in giving the REMEDY A TRIAL. Yours truly, GEORGE TAYLOR.

RICHARD'S REMEDY is for sale by
H. ROWMAN,
Druggist, Sacramento, 2v12
Price, \$2.50 per Bottle.

COPPERAS! COPPERAS!

200 BARRELS COPPERAS—SULPHATE OF IRON.
For sale, in lots to suit, by
BENJAMIN BRADY,
103 California street,
Southwest corner of Davis, up-stairs. 2v12

Capitalists, Attention!

QUARTZ MILL & MINING PROPERTY
FOR SALE
In Nevada County.

A NEW 8-STAMP QUARTZ MILL, 7 LEDGES AND 640 acres heavily timbered Land, near Eureka, Nevada County, are now offered for sale. The Mill is run by steam power, and is in complete order for business. The ledges, which form the principal value of this property, are all large and well-defined, but require a further outlay of capital, in order to make them remunerative. For the lack of means to properly develop these claims, the present owners are disposed to sell the same for a reasonable price. Capitalists wishing to engage in mining will find this a splendid opportunity to purchase a property that will bear high scrutiny, and offers superior inducements as an investment.

For address and further information, inquire of the Publishers of the MINING AND SCIENTIFIC PRESS, 505 Clay Street, San Francisco. 2v12

HAYWARD, COLEMAN & CO.,

IMPORTERS AND REFINERS

—OF—

Illuminating, Lubricating,
PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO,—

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.
A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand. 8v13-3m19 414 Front street, San Francisco.

THE CALIFORNIA

Aerated or Unfermented
BREAD COMPANY.

Bakery on Folsom Street,
Between Tenth and Eleventh.....SAN FRANCISCO

MESSRS. TAGGART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in partnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit, all orders for his truly wholesome and cleanly Bread. We have a sufficient number of delivery wagons at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.

Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the conveyance of all orders for the bakery so that they may reach our earliest attention:
Order box at C. J. Hawley & Co.'s Grocery, corner Second and Jessie streets; Rowland & Walker, 614 Clay street; Plum's Carpet Store, Montgomery street, opposite Lick House; G. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the route-men like wise. We expect soon to be prepared to supply Pastry, likewise the Boston Brown Bread, and Beans of the first quality. Due notice will be given.

The present Company is entirely independent of the former California Unfermented Bread Company, neither of them having been in any way connected with that company.

We would cordially invite the public to make a visit to our new bakery. 4v13-3m 8v13 BULKLEY, Business Partner.

Metallurgy.

BOALT & STETEFELDT,
Metallurgists and Mining Engineers

AUSTIN, NEVADA.

Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 1v11

G. W. MAYNARD. J. H. TIEMANN.

MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
210 Pearl street, New York,

—AND—
CENTRAL CITY, COLORADO.
1v12 1y

Copper, Lead, Gold, Silver,
Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,

Agent for Townsend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.
23-Special attention paid to Gold Bearing Sulphurets. 8v13-3m

To Copper Miners and Others Interested in
the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Haskell, for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to JOHN N. KEDDIN, 2v12 At Coffey & Riddon's, San Francisco.

MARTIN & CO.,

Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE

PURCHASE OF COPPER ORES.

Assaying eight per cent. and upwards of Copper to the ton. We will make advances upon Ores of Copper. San Francisco, Post Office Box 1259. 22

PACIFIC CHEMICAL WORKS

—AND—

ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of

Manufacturing Chemicals,

Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FALKENAU & HANKS,

Laboratory, corner Folsom and Center streets.

Office, 629 Washington street, San Francisco. 2v12-1m

EUROPEAN

METALLURGICAL WORKS,

—AND—

Practical Mining School,

Bryant Street, between Third and Fourth,
SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphuret, pyrites, and the so-called "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well equipped Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

S. F. KIMBALL,

J. R. MURPHY,

10v10

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN

ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,

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512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand. San Francisco March 6, 1885. 1v10-1f

NAPA CITY, May 9th—Messrs. DEWEY & Co., Patent Agents, San Francisco: Yours of May 7th is at hand. I am pleased to hear of the receipt of our caveat papers at the U. S. Patent Office, Washington, D. C. You have my fullest thanks for your energetic movements concerning the same. Respectfully, yours. W. W. LUTHERING.

Trades and Manufactures.

WM. BARTLING, HENRY KIMBALL.
BARTLING & KIMBALL,
BOOKBINDERS,
 Paper Rulers and Blank Book Manufacturers.
 505 Clay street, (southwest cor. Sansome),
 15v12-3m SAN FRANCISCO.

JOHN DANIEL,
 (SUCCESSOR TO O. GOR)
MARBLE WORKS,
 No. 408 Pine st. bet. Montgomery and Kearny, San Francisco.

Mantels, Manumets, Tombs, Plumbers' Slabs
 Etc., on hand and Manufactured to order.
 Goods shipped to all parts of the State. Orders re-
 spectfully solicited. 5v8-3m

NATHANIEL GRAY,
 General Furnishing Undertaker,
 641 Sacramento St., corner of Webb, San Francisco.

Barstow's Metallic Barial Caskets and Cases
 111

THEODORE KALLENBERG,
 Maker of Models for Inventors.

MACHINES, MATHEMATICAL, OPTICAL AND PHIL-
OSOPHICAL Instruments, Scales, Weights, etc. Steel
 Stamps, Dies and Die Sinking, Engraving Stamps. Repair
 ing of machinery on premises attended to.
 No. 418 Market street, San Francisco. n7-1f

Palmer's Patent
ARTIFICIAL LEG,
 Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
 629 Washington Street, San Francisco, Cal. 10v8-1m

HUCKS & LAMBERT,
 SOLE MANUFACTURERS OF THE CELEBRATED

H. & L. GREASE,
 Natoma Street and North Beach,
 2v13-3m SAN FRANCISCO.

MARSH, PILLSBURY & CO.,
 DEALERS IN

Hardware, Tools & Metals,
 Northeast cor. Front and Pine street.
 4v13-1m

MANUFACTURERS AND INVENTORS.
Pacific Patent Agency,
J. H. ATKINSON,
 501 Kearny street, San Francisco. 8v13

F. M. TRUWORTHY,
STENCIL PLATE CUTTER,
 —AND—

BRAND MANUFACTURER,
 No. 321 Front street, corner of Commercial,
 SAN FRANCISCO.

Names for Marking Linen, Brushes, Ink and Marking
 Pots for sale. 9v13-3m

FIRE, HYDRAULIC & SUCTION HOSE,
 And Leather Belting.

M. M. COOK & SON,
 81 Battery Street, San Francisco.

Are now manufacturing as above, Fire, Hydraulic and
 Suction Hose, and Leather Belting, of any dimension and
 in any quantity which may be desired. Fire Hose and
 Belting constantly on hand or manufactured to order. Also
 Saddles and Horse Collars.
 The subscribers would respectfully ask purchasers to call
 and examine their stock—also testimonials of the efficiency
 of their work from such as have used their hose both for fire
 and mining purposes. A diploma was awarded to us last
 year, by the Mechanics' Institute, of this city, and a silver
 medal this year. 12v11-1y

Empire Sewing Machine Company.
 Principal Office, 616 Broadway, New York.

GREAT IMPROVEMENT IN SEWING MACHINES.
 The Empire Shuttle, Crank Motion Sewing Machine. It is
 thus rendered noiseless in action. Its motion being all pos-
 itive, it is not liable to get out of order. It is the best Fam-
 ily Machine! Notice is called to our new and improved
 Manufacturing Machine, for Tailors and Boot and Shoe
 Fitters. Agents wanted, to whom a liberal discount will be
 given. No consignments made.

EMPIRE SEWING MACHINE COMPANY.
 7v13-3w

RADICAL CURE

—OF—
RUPTURE!

Treatment of all Deformities of the Body, by DR. A.
 FOLLEAU'S process. 622 Washington street, up stairs,
 Washington Baths Building, between Montgomery and
 Kearny streets.

DR. A. FOLLEAU

Has his studies and manufactures in the same building.
 Every kind of Apparatus, Trusses, Orthopedic Instru-
 ments, Artificial Limbs, etc., are manufactured and applied
 by himself.

He has no connection with any Agency. 8v13-1y1p

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Practical and Analytical Chemistry
and Metallurgy.

THOMAS PRICE,
 Professor of Chemistry,
 (Formerly of the Normal College, Swansea.)

WILL GIVE PRACTICAL INSTRUCTIONS IN QUALI-
tative and Quantitative Analysis and Assaying. The
 course includes studies of the application of Chemistry
 to METALLURGY, MANUFACTURING ARTS, and MINING
 PURPOSES.

PHARMACEUTICAL and TECHNICAL CHEMISTRY,
 such as is required by Medical and Pharmaceutical Stu-
 dents, will be taught to such students as may require it.

Course of General Chemistry.

Evening Lectures will be delivered every Tuesday, at
 half-past seven o'clock, P. M., in the Philosophical Hall of
 the College, without extra charge to the students in the in-
 stitution.

On and after the 14th of February, the Laboratories will
 be open every day, except Sundays, from 8 A. M. to 5 P. M.
 For further particulars, address

REV. P. V. VEEDER,
 Principal of the City College.
 Or at 406 California Street.

SAN JOSE INSTITUTE
 —AND—
Commercial College.

SAN JOSE,
 Santa Clara County, California.

THE NINTH SESSION WILL COMMENCE ON THURS-
DAY, July 26th, 1886

A new, practical and complete Business Course has been
 adopted, differing from that of any other School in the
 State. We call the special attention of Business Men, or
 those wishing to give their sons a thorough, practical Busi-
 ness Education, to this fact, and request them to send for a
 Circular before deciding what School they will patronize.

Ample accommodations for board and tuition in
 Ornamentals, Music, Ancient and Modern Languages
 taught.

Special arrangements have been made for boys between
 the ages of ten and eighteen.

For further particulars or Circular, address

FREEMAN GATES, Principal.

Or, **GEO. E. HOUGHTON, Prin. Com. Dept.**

New Mining Advertisements.

Gold Hill Tunneling Gold and Silver Mining
 Company.—Location: Gold Hill Mining District, County
 of Storey, State of Nevada.

Notice.—There are delinquent, upon the following de-
 scribed stock, on account of assessment (No. 3) levied on the
 thirty-first day of July, 1886, the several amounts set op-
 posite the names of the respective shareholders, as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Chappellet F.	267	87	\$37.00
Larorsch Chas.	40	10	10.00
Lemaitre F.	270	10	10.00
Normandin Marc.	32	20	20.00
Piedra Chas.	32	50	50.00
Tessiere A.	273	55	55.00
Vietot A.	312	15	15.00
Zadig Ph.	35	8	8.00

And in accordance with law, and an order of the Board
 of Trustees, made on the thirty-first day of July, 1886, so
 many shares of each parcel of said stock as may be neces-
 sary, will be sold at public auction, by Maurice Dore & Co.,
 at No. 327 Montgomery street, San Francisco, Cal., on
 Tuesday the twenty-fifth day of September, 1886, at the hour
 of 1 o'clock, P. M. of said day, to pay said delinquent as-
 sessment thereon, together with costs of advertising and
 expenses of sale.

R. WEGENER, Secretary.
 Office 445 Montgomery street, San Francisco, Cal. 8v8

Kentucky Copper Mining Company, Mine Fe-
lix District, Calaveras County, California.

Notice.—There are delinquent, upon the following de-
 scribed stock, on account of assessment levied on the
 second day of August, 1886, the several amounts set op-
 posite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buenemann Ch.	25	20	\$20.00
Daryes Richard	47	10	5.00
Dunn James	114	5	5.00
Dunn James	160	15	15.00
Dunn James	162	10	10.00
Gage C. C.	233	19	19.00
Gallagher Th.	213	25	25.00
Gildemeister D. A.	174	5	5.00
Gildemeister W.	200	20	20.00
Gildemeister W.	224	40	40.00
Harris L.	308	20	20.00
Harris L.	309	20	20.00
Harris L.	310	20	20.00
Harris L.	310	20	20.00
Herrmann F. J.	245	18 1/2	18.50
Herrmann F. J.	247	5	5.00
Houston R. T.	20	6	6.00
Koels A. E.	22	50	50.00
Koels A. E.	22	5	5.00
Lachmann S.	245	25	25.00
Lachmann S.	247	25	25.00
Lauenstein W. O.	18	25	25.00
Lauenstein W. O.	79	75	75.00
Lewis Edwin	32	5	5.00
Muecke G.	194	10	10.00
Muecke G.	195	10	10.00
Muecke G.	196	10	10.00
Muecke G.	197	10	10.00
Muecke G.	198	10	10.00
Muecke G.	199	10	10.00
Muecke G.	200	10	10.00
Muecke G.	201	10	10.00
Muecke G.	202	10	10.00
Muecke G.	203	10	10.00
Muecke G.	204	10	10.00
Muecke G.	205	10	10.00
Muecke G.	206	10	10.00
Muecke G.	207	10	10.00
Muecke G.	208	10	10.00
Muecke G.	209	10	10.00
Muecke G.	210	10	10.00
Muecke G.	211	10	10.00
Muecke G.	212	10	10.00
Muecke G.	213	10	10.00
Muecke G.	214	10	10.00
Muecke G.	215	10	10.00
Muecke G.	216	10	10.00
Muecke G.	217	10	10.00
Muecke G.	218	10	10.00
Muecke G.	219	10	10.00
Muecke G.	220	10	10.00
Muecke G.	221	10	10.00
Muecke G.	222	10	10.00
Muecke G.	223	10	10.00
Muecke G.	224	10	10.00
Muecke G.	225	10	10.00
Muecke G.	226	10	10.00
Muecke G.	227	10	10.00
Muecke G.	228	10	10.00
Muecke G.	229	10	10.00
Muecke G.	230	10	10.00
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Muecke G.	242	10	10.00
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Muecke G.	246	10	10.00
Muecke G.	247	10	10.00
Muecke G.	248	10	10.00
Muecke G.	249	10	10.00
Muecke G.	250	10	10.00
Muecke G.	251	10	10.00
Muecke G.	252	10	10.00
Muecke G.	253	10	10.00
Muecke G.	254	10	10.00
Muecke G.	255	10	10.00
Muecke G.	256	10	10.00
Muecke G.	257	10	10.00
Muecke G.	258	10	10.00
Muecke G.	259	10	10.00
Muecke G.	260	10	10.00
Muecke G.	261	10	10.00
Muecke G.	262	10	10.00
Muecke G.	263	10	10.00
Muecke G.	264	10	10.00
Muecke G.	265	10	10.00
Muecke G.	266	10	10.00
Muecke G.	267	10	10.00
Muecke G.	268	10	10.00
Muecke G.	269	10	10.00
Muecke G.	270	10	10.00
Muecke G.	271	10	10.00
Muecke G.	272	10	10.00
Muecke G.	273	10	10.00
Muecke G.	274	10	10.00
Muecke G.	275	10	10.00
Muecke G.	276	10	10.00
Muecke G.	277	10	10.00
Muecke G.	278	10	10.00
Muecke G.	279	10	10.00
Muecke G.	280	10	10.00
Muecke G.	281	10	10.00
Muecke G.	282	10	10.00
Muecke G.	283	10	10.00
Muecke G.	284	10	10.00
Muecke G.	285	10	10.00
Muecke G.	286	10	10.00
Muecke G.	287	10	10.00
Muecke G.	288	10	10.00
Muecke G.	289	10	10.00
Muecke G.	290	10	10.00
Muecke G.	291	10	10.00
Muecke G.	292	10	10.00
Muecke G.	293	10	10.00
Muecke G.	294	10	10.00
Muecke G.	295	10	10.00
Muecke G.	296	10	10.00
Muecke G.	297	10	10.00
Muecke G.	298	10	10.00
Muecke G.	299	10	10.00
Muecke G.	300	10	10.00

And in accordance with law, and an order of the Board
 of Trustees, made on the second day of August, 1886, so
 many shares of each parcel of said stock as may be neces-
 sary, will be sold at public auction, at the salesrooms of
 Cobb & Sinton, 407 California street, on the twenty-sixth
 day of September, 1886, at the hour of 12 o'clock, M. of said
 day, to pay said delinquent assessment thereon, together
 with costs of advertising and expenses of sale.

J. A. BAUER, Secretary.
 Office, 644 Washington street, San Francisco, Cal. 8v8

Important to Californians.—Many inventors have
 lately had their claims for Patents seriously (and in some
 cases fatally) delayed by the unqualification of agents who
 have not complied with the Government license and revenue
 laws, as well as other new and imperative regulations.
 These discrepancies, although arising from the inexperience
 of honest agents, are now the less dangerous to applicants
 for patents, whose safest course is to trust their business
 with one but active and experienced solicitor. The Min-
 ing and Scientific Press Patent Agency has strictly com-
 plied with the requisitions of the Department, and properly
 filed all necessary papers as Claim Agents.

Simpson Mining and Milling Company, Mokel-

unne and Excelsior District, Alpine county, California.

Notice.—There are delinquent upon the following de-
 scribed stock, on account of assessment levied on the third
 day of August, 1886, the several amounts set opposite the
 names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T. Cunningham	not issued	100	\$20.00
I. L. Simpson	not issued	100	30.00
Charles Smith	not issued	100	30.00

And in accordance with law and an order of the Board of
 Trustees, may on the third day of August, 1886, so many
 shares of each parcel of said stock as may be necessary,
 will be sold at public auction, at the office of the Company,
 southwest corner of Front and Jackson streets, up stairs,
 San Francisco, California, on the twenty-fourth day of Sep-
 tember, 1886, at the hour of 12 o'clock, noon, of said day,
 to pay said delinquent assessment thereon, together with
 costs of advertising and expenses of sale.

T. B. BIGELOW, Secretary.
 Office, southwest corner of Front and Jackson streets, up
 stairs, San Francisco, Cal. of California. sep3

White and Marphy Gold and Silver Mining

Company, Virginia District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board
 of Trustees of said Company, held on the fourth day of
 September, 1886, an assessment of one (\$2.25) dollar and
 twenty-five cents per share was levied upon the capital
 stock of said Company, payable immediately, in United
 States gold coin, to the Secretary, at the office of the Com-
 pany.

Any stock upon which said assessment shall remain un-
 paid on the eleventh day of October, 1886, shall be deemed
 delinquent, and will be duly advertised for sale at public
 auction, and unless payment shall be made before, will be
 sold on Thursday, the first day of November, 1886, to pay
 the delinquent assessment, together with costs of adver-
 tising and expenses of sale.

JOSEPH P. NOURSE

and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

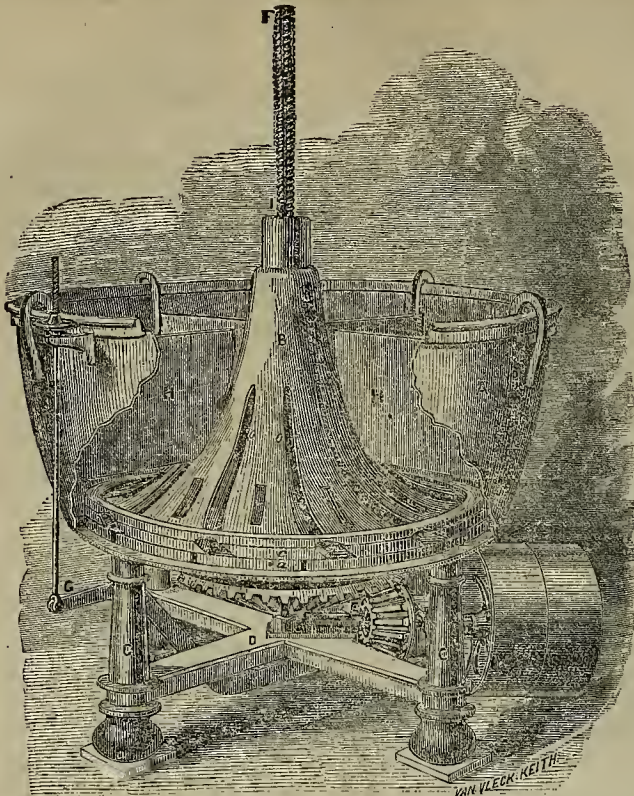
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits. They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

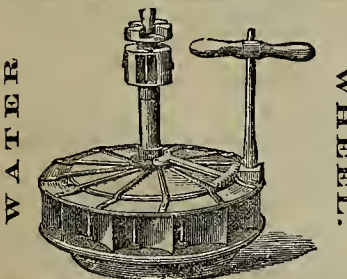
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,** San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by **KNAPP & GRANT,** 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 600 feet fall. Let us know how much water you have either in mill-races or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to **KNAPP & GRANT,** San Francisco.

Leffel's Lever Jacks,

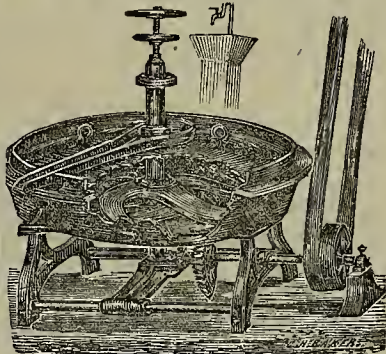
For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by **KNAPP & GRANT,** San Francisco.

PAGE'S PATENT FOR RAISING SUNKEN VESSELS!

SHIPPING AND INSURANCE COMPANIES, AND other parties upon this coast or in the Atlantic States, having occasion to avail themselves of this invention, which has been tried and proved a success, will please address, for the present, **JOSEPH H. PAGE,** San Francisco or at the office of the **Mining and Scientific Press,** 8v13 **AUSTIN Z. PAGE,** Patentee.

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and its execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for BOOK AND PAMPHLET PRINTING entrusted to the Mining and Scientific Press Job Office.

BAUX & GUIOD'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the **FIRST PREMIUM** at the San Francisco Mechanics' Fair for 1884, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by **BAUX & GUIOD'S** Pan, are the following: The trifling cost for attendance; Its small cost; Its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping. As it is constructed to work continuously, the complete thoroughness of the separation of the rock from the metals and the triding power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jeffersonian Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Grail's Gravel Cement Works, Nevada county; Waltham's Chlorination Works, Nevada, Cal.; Gold Hill Quartz Mill, Washoe.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hough & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address **J. B. BAUX,** Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 4v8-6d1f

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE

ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent,

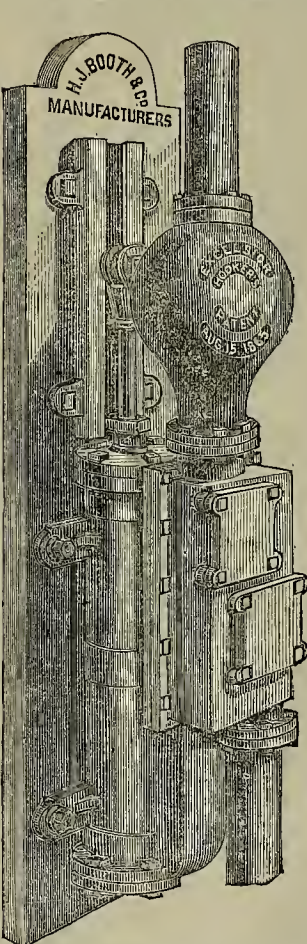
At Job M. SEAMAN & Co's, 631 WASHINGTON STREET, San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the **Mining and Scientific Press,** 2v13p16-1f

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 19v12

EXCELSIOR PUMP!



HOOKER'S PATENT!

THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST, also, from some of the best miners in the State who have them in use. For manufactories, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITTON & CO.,

General Agents,

120 Front street, San Francisco.

Send for Price List.

2v13 3m

STODDARD'S

CELEBRATED WATER FILTERS!

PURIFY RAIN, RIVER, OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$16 and \$18. For sale by **S. B. STODDARD,** Corner of Battery and Pacific streets. 25v12 3m

June 23, 1886.

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the **UNION PAN** to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The **UNION PAN** is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention.

16v12 3m

BRUCKNER'S

Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which

GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

416 Market street, San Francisco.

19v12

Kerosene and Gas Stoves.

TEA AND COFFEE-BOILERS, GLUE POTS, OIL CANS, T. etc., etc.

All the Cooking for a family may be done with Kerosene Oil or Gas, with less trouble, and at less expense, than by any other fuel.

Each Article manufactured by this Company is guaranteed to perform all that is claimed for it.

Send for Circular.

LIBERAL DISCOUNT TO THE TRADE.

KEROSENE LAMP HEATER COMPANY,

206 Pearl Street, New York. 6v13 2m

Rubber Belting,

WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by

THOMAS H. SELBY & CO.,

Nos. 116 and 118 California street

22v12 3m

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. One to three-ply Hose made. All orders punctually attended to.

S. HOWARD,

326 Davis street, San Francisco.

au11-1v

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDARD'S IRON WORKS,

114 Beale Street, San Francisco.

23v12 3m

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f

SAN FRANCISCO.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery

OF ALL KINDS.

Special attention given to Quartz Mill Machinery

and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. F. Low; Coffey & Riston, San Fran

C. T. Meador, Stockton; Geo. K. Gluyas, Chief En-

Jacob Underhill & Co., San Francisco; gluer of Cal. S. Nav. Co.,

J. W. Stowe, Russell & Erwin, San Francisco;

Manufacturing Company; Office, No. 120 Front street, San Francisco. 4v12

Economy in Advertising.—The **Mining and Scientific Press** is the best and most economical mining advertising medium in this city. Our terms are less than one-half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

THE VIRTUE OF BORAX.—The washerwomen of Holland and Belgium, so proverbially clean, and who get up their linen so beautifully white, use refined borax as washing powder instead of soda, in the proportion of one large handful of borax powder to about ten gallons of boiling water: they save in soda nearly one-half. All the large washing establishments adopt the same mode. For laces, cambrics, etc., an extra quantity of the powder is used, and for crinoline, requiring to be made stiff, a strong solution is necessary. Borax being a neutral salt, does not in the slightest degree injure the texture of the linen; its effect is to soften the hardest water, and therefore it should be kept on every toilet table. To the taste it is rather sweet; it is used for cleaning the hair, is an excellent dentifrice, and in hot countries is used in combination with tartaric acid and bi-carbonate of soda as a cooling beverage. Good tea cannot be made with hard water; all water may be made soft by adding a tea-spoonful of borax powder to an ordinary sized kettle of water, in which it should boil. The saving in the quantity of tea used will be at least one-fifth.

NORWEGIAN LEGEND.—Two little boys were playing by the side of a river, and they saw the Stromkari, or water spirit, sitting on the shore, and playing on his harp. Then the children called out to him, and said, "Stromkari, why do you sit here playing? There is no salvation for you." Thereupon the Stromkari fell to weeping bitterly, threw his harp away, and sank into the deep waters. When the boys returned home, they related to their father, who was a godly man, what had befallen. The father said, "You have sinned against the Stromkari; go back and comfort him, and tell him that he shall be saved." When they went back to the river, the Stromkari sat on the shore, weeping and lamenting; and the children said, "Weep not so, Stromkari, our father says that thy Redeemer also liveth." Then the Stromkari joyfully took his harp and played sweetly till sunset.

THE BOY THAT WOULD HAVE DONE IT.—When Lieut. Governor Patterson was speaker of the Legislature of one of our States, some dozen boys presented themselves for the post of messenger, as is usually at the opening of the House. He inquired their names and into their condition, in order that he might make the proper selection. He came, in the course of his selection, to a small boy about ten years old, a bright looking lad. "Well, sir, what is your name?" said he. "John Huneock, sir," replied the boy. "What, you are not the one that signed the Declaration of Independence, are you?" said the Speaker. "No, sir! but I would if I had been there," replied the lad, stretching himself to his utmost proportions. "You can be one of the messengers," said the Speaker.

ANOTHER ASTEROID.—The 87th of the group of asteroids was discovered on the night of June 16th, at Madras, India. The new planet has been named Sylvia. It can only be detected by very powerful telescopes.

J. B. CONE, BUSINESS AGENCY.—Makes private sales of Property and Business Places of every description, in the city and throughout the State; procures partners with large and small amounts of money; negotiates sales of mining property, and does a General Agency Business. Patronage solicited by mail, express, or by personal application at the office, 402 Montgomery Street, San Francisco, California. 2x11H

BROWN & BEADLE,
Offer their services to
INVENTORS AND THEIR ASSIGNEES,

PATENT SOLICITORS.

They will make Preliminary Examinations in the Patent Office, with a view to ascertain the Patentability of any Invention that may be submitted to them for that purpose; will prepare the necessary papers for those who wish to make Applications for

Patents for their Inventions,

—OR FOR—

EXTENSIONS OR REISSUES OF PATENTS

Already granted; will act as Attorneys in presenting Applications at the Patent Office, and in managing them to a final issue; will draw up Assignments; will examine into the condition of Rejected Applications when desired to do so, and undertake the prosecution of such as may be considered patentable, and do whatever else is usually done by Patent Solicitors.

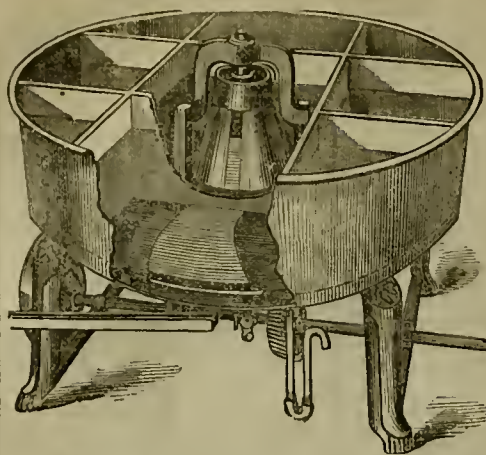
Address, P. O. Box 257, Washington, D.C. 7x123m

California Steam Navigation COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE.
" CHRYSOPELIS.....CAPT. A. POSTER.
" YOSEMITE.....CAPT. W. BROMLEY.
" CORNELIA.....CAPT. W. BROMLEY.
" JULIA.....CAPT. E. CONKLIN.
One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.
Steamships ALAX, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SEXTAR, leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.
Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE,
President.

Knox's Improved Patent Amalgamator and Separator, With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of

14x13 p12q

At the Golden State Iron Works, No. 19 First Street, San Francisco.

CAUTION!—TO WHOM IT MAY CONCERN.—The Public are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 25th, 1865, to Professor Henry Wurtz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be subjected to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY,
OF NEW YORK.

Assignees of letters patent granted to Prof. Henry Wurtz, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.

The terms and conditions upon which rights to use the process are obtainable, can be had on application to
WM. KNOX,
Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 5x13

NEW YORK PRICES.



C. E. COLLINS,

No. 603 Montgomery street, San Francisco.

EXCLUSIVE AGENT

—FOR THE—

AMERICAN WATCH FACTORY.

A large assortment of these

Superior Watches,

In Gold and Silver Cases,

Constantly on hand, and sold at Factory

prices. Also,

ENGLISH AND SWISS WATCHES,

Imported directly from the Manufacturers.

The American Company are now making

VERY FINE WATCHES FOR LADIES.

57-A large assortment of Gold Chains

and Jewelry. 2x10-6m

NEW YORK PRICES.



STANDARD SOAP COMPANY'S WASHING POWDER.

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for use in hard as soft water. One pound will make three gallons of beautiful soap. Put up in wrappers of 1 lb each, and in wooden boxes of 10 lbs bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15x12q

WE ARE NOW OFFERING OUR IMMENSE STOCK

Fine Custom Made Clothing

Gents' Furnishing Goods

AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of

ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

A Large Assortment of

Trunks, Valises, Carpet Bags, Blankets, Etc.,

AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,

Cor. of Washington and Sansome streets.

8x10

THIS CUT REPRESENTS AN AMALGAMATOR and Separator that has stood the test of many years' practical working in the gold mines of California, and for nearly the same time in the silver mines of Nevada, having been introduced into the first steam mills built in the then Territory, since which time they have been successfully working against all competition.

The great advantages these Amalgamators have over any others, are—

1st. Much less Cost.

2d. They do not "flour" the mercury, and collect any that may have been "sickened" in the battery or grinders.

3d. The "sloshing" motion given to the pulp (by the revolution of the roller under the stationary frame) against the amalgamated copper plates that are fastened to the frame, and by this means catching the fine gold and mercury that will not settle.

4th. The gate in the cone, through which the pulp is discharged, from the top, and where there is the least motion, almost precluding the possibility of any granulated mercury or fine gold escaping.

There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

**ISRAEL W. KNOX, or
W. A. PALMER, inventors,**

At the Golden State Iron Works, No. 19 First Street, San Francisco.

ANNUAL REPORT

Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 22, 1864, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD \$750,000
II.—The amount of the Assets is ONE MILLION AND FIFTY ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY SEVEN CENTS. \$1,051,420.37
III.—The Company has NO DEBTS
IV.—The amount of insurance effected during the year, and which remained in force December 31, 1865:

Marine.....\$12,973,949
Fire.....\$4,408
This Company commenced underwriting Marine risks, August 1, 1865.

V.—This Company insures against the following risks, viz.: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE. Also, on CARGOES, TREASURE, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL MARINE AND LAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

J. HUNT, President.
A. J. RALSTON, Secretary.

San Francisco, January 19, 1866.

Louis McLane,	Edward Martin,	A. Hayward,
W. C. Ralston,	Chas. Mayne,	T. L. Barker,
A. L. Tibbels,	Moses Ellis,	Alex. Wells,
William Alvord,	E. L. Goldstein,	C. Meyer,
Frederick Billings,	Wm. T. Coleman,	J. D. Fry,
Jonathan Hunt,	John O. Earl,	M. Rosenbaum,
A. B. Forbes,	Lloyd Tevis,	U. H. Bigelow,
Asa G. Sides,	Geo. W. Bentner,	T. Leitch Meyer,
Abm. Seligman,	Adam Grant,	Sacramento,
L. B. Bendley,	Alpheus Bull,	Edgar Mills,
Wm. Sherman,	S. M. Wilson,	G. W. Mow,
I. Sachs,	D. J. Oliver,	C. T. Wheeler,
Jas. De Fremery,	William Scholle,	San Jose,
John G. Gray,	Morton Cheeseman,	J. H. Jewett,
John B. Newton,	H. Haussman,	Stockton,
David Stern,	D. W. Rice,	T. R. Anthony,
D. O. Mills,	Oliver Eldridge,	Portland, Oregon,
J. G. Kellogg,	W. M. Leonard,	W. S. Ladd,
S. H. Howard,	S. S. Schuchart,	San Francisco,
Moses Heller,	P. L. Weaver,	Virginia, Nevada,
Wm. M. Whall,	Wm. Hoover,	Wm. Sharon,
G. T. Lawton,	Alfred Bufel,	

State of California, City and County of San Francisco, ss. On this nineteenth day of January, A. D. one thousand eight hundred and sixty-six, personally appeared before me, H. S. Homan, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. Ralston, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.

Sworn and subscribed to before me, this 19th day of January, A. D. 1866.

5x13-1f

WM. H. KEITH & CO., Chemists and Apothecaries,

PROPRIETORS AND MANUFACTURERS OF

WM. H. KEITH & CO.'S WINE OF PEPSINE, OR RENNET Wine, a new and efficacious remedy for Dyspepsia, Gastralgia, etc. WM. H. KEITH & CO.'S GLYCERIN, a new and valuable compound of Cod Liver Oil, put up in glass jars. WM. H. KEITH & CO.'S LEMON APERIENT, or Purgative Lemonade, an agreeable, cooling and active purgative, or mild laxative, as required. WM. H. KEITH & CO.'S PULVERULENT TOOTH POWDER. DEVINE'S PITCH LOZENGES, for the cure of coughs and colds. Wm. H. Keith & Co.'s Florentine Tooth Wash. Wm. H. Keith & Co.'s Eucalyptus, Citrus and Eucalyptus. Wm. H. Keith & Co.'s Rosemary and Castor Oil Hair Vigorator.

WM. H. Keith & Co. being in frequent communication with Eastern and European markets, are continually renewing their stock of Pure Drugs, Rare Chemicals, Fancy Goods, and Toilet Articles, Pure Oils, etc. They also give special attention to replenishing ship medicine chests.

Physicians and others at a distance of goods from us, can depend upon having their orders filled with the same regard to quality and price, as though obtained in person, and we give particular attention to packing and forwarding the same.

WM. H. KEITH & CO.,

Apothecaries' Hall, No. 521 Montgomery street, 15x12y Between Clay and Commercial, San Francisco.

FOR SALE CHEAP.

A GOOD TYPICAL COLLECTION OF

NEVADA MINERALS,

Silver, Lead, Copper, Iron, Salt, Sulphur, etc.—about nine hundred specimens—carefully labeled, with Catalogue.

For terms, apply to this office, or to S. H. R. Virginia, Nevada. 6x13-1m

Send-ONE FOR IT.—The large, illustrated sixty-four column weekly newspaper—the San Francisco MINING AND SCIENTIFIC PRESS—should be taken by every miner, prospector, and intelligent citizen throughout Colorado, as it gives a mint of most useful information to be gained no other way, on mining matters generally.—Rocky Mountain News.

Portable Steam Engines!

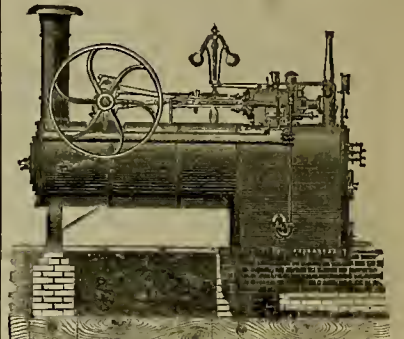
"Hoadley's" and "Hittinger's" Make,



HOADLEY'S.

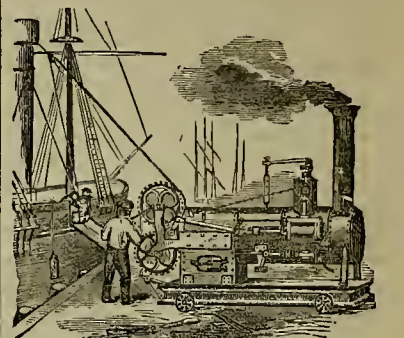
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

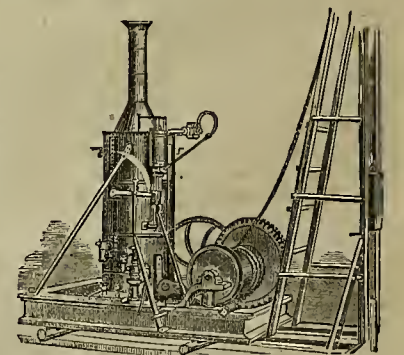
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power!



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price.

These engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes.

Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises), in fact, the portable principle is the miner's friend, and enables him to draw engines on their own wheels, to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.

All sizes on hand from 3 to 30 horse power, with an without carriages.

Also, Portable Saw and Grist Mills.
For sale by
TREADWELL & CO.,
Corner of Front Market and Streets.

18x12

CRYSTALLIZATION OF METALS.—It is said to be a fact pretty well ascertained, that all metals which have had their crystallization destroyed by being drawn, hammered or annealed, will, in course of time, even if kept at perfect rest, return to their original crystalline state. It is well known that percussion will produce re-crystallization; but it is not so well known that the original arrangement of the molecules will be resumed if rest and time be given the mass. A correspondent of the *American Artisan* says that in removing an old wall where some block tin pipe had been allowed to remain a number of years, he was somewhat surprised to find that on hending them they cracked like bars of tin, which they could not have done when first drawn out. It is also said that the iron-shod piles of the old London Bridge, which were made of wrought metal, have lost the fibrous effects of the forge. It is generally supposed that metallic alloys are not so liable to lose their crystalline structure if, indeed, they lose it at all.

SCIENCE IN AUSTRALIA.—Melbourne, the chief city of Australia, boasts of a first-class scientific observatory, having an excellent reflecting telescope and all the other apparatus of a well-furnished astronomical institution. When will the moneyed men of California take the first step towards patronizing anything in the shape of a scientific institution. The Legislature of Australia has the name of being exceedingly liberal in its patronage of science, appropriating freely to the aid of scientific bodies and institutions. It is time the Legislature of California should do something in addition to its stinted annual appropriations for the Geological Survey.

LOSS BY FIRES.—It is estimated that nearly fifty millions have been lost in this country by fires, on sea and land, during the past year. The five principal causes of these fires, stated in their order of destructiveness, are said to be: First, carelessness of smokers in dropping their ashes and cigar ends; second, unskillful use and handling of burning fluid; third, the had construction of chimneys and furnaces; fourth, the want of precautions, such as are common in Europe, for preventing fires from spreading from room to room and house to house; and, fifth, the useless and dangerous custom of celebrating holidays by fire crackers and fire-works in the midst of towns and cities.

LARGE MASS OF COPPER.—The largest mass of copper which was ever brought away from the Lake Superior mines, was lately landed at Cleveland, Ohio. It weighed 15,000 pounds. It is estimated that in this mass there is fully ninety per cent. of pure copper. Besides this chunk, the Ironsides brought down 306 tons of copper, some of the masses being nearly as large and pure as the above.

FROM EGYPT TO AMERICA IN LESS THAN NO TIME.—M. Lesseps, the engineer of the Isthmus of Suez Canal, has telegraphed his congratulations to Mr. Field on the success of his (Field's) great enterprise. The message was dated July 30, at 1½ P. M., and arrived at Heart's Content at 10½ A. M., thus gaining three hours on time.

TIN FOIL.—The so-called tin foil is lead, with an exceedingly thin covering of tin. The difference in the cost of the two metals pays for the extra labor of making it thus.

STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the Mining and Scientific Press.

PATENT BUSINESS.

We have lately associated with us in the Patent and Mechanical Department of the Mining and Scientific Press, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner. DEWEY & CO., Patent Solicitors. San Francisco, June, 1886.

ONE HUNDRED DOLLARS REWARD!!!

The above Reward will be paid to any one who will produce evidence of a failure of any of HENDY'S IMPROVED SELF-DISCHARGING CONCENTRATORS, Patented February 27th, and April 17th, 1886—which said amount is deposited for 60 days with Palmer, Knox & Co., No. 19 First Street, San Francisco. June 23d, 1886.

J. HENDY, Patentee.

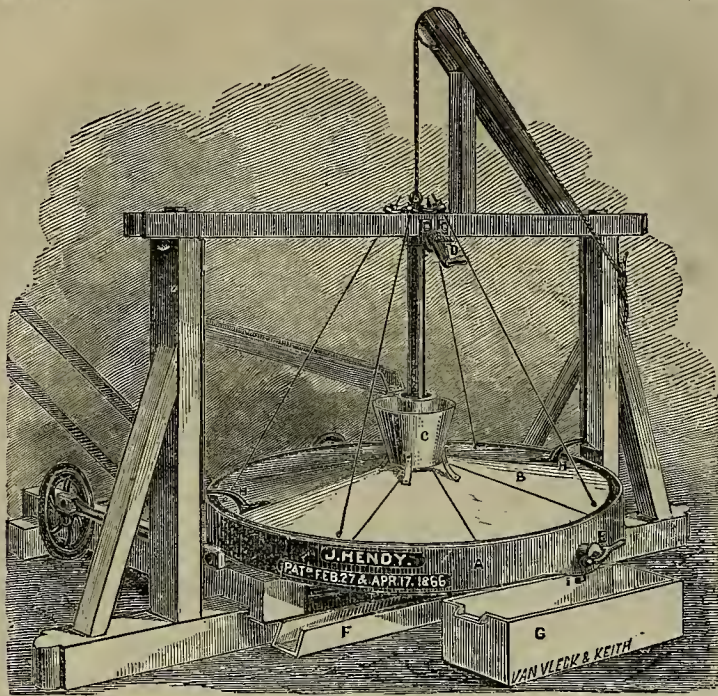


Figure 1.

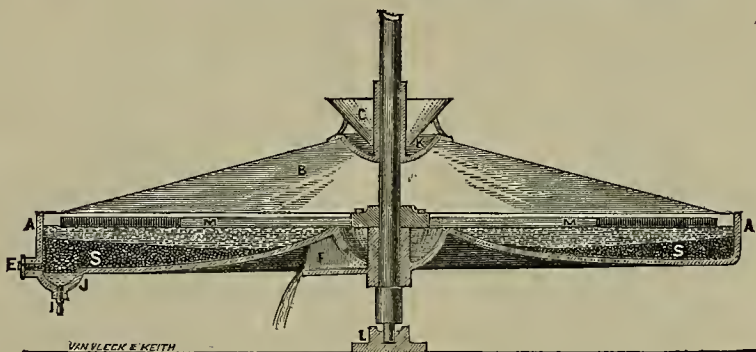


Figure 2.

Hendy's Improved Patent Self-Discharging Sulphurets

PRATER CONCENTRATOR

Is Receiving Universal Favor.

Reference is made to the following Mills which have them now in use:

BENTON MILL, Bear Valley, Mariposa County. LOUISIANA MILL, near Conditville, Mariposa County. OPHIR MILL, near Newcastle, Placer County. C. H. SCHWABER'S MILL, Doty Flat, Placer County. CONY MILL, Jackson, Amador County. SPRING HILL MILL, Amador, Amador County. GOLDEN GATE MILL, Volcano, Amador County. RAWBLIDE MILL, Jamestown, Tuolumne County. TATUNPO G. & S. M. CO., Lower California, Mexico.

And in use in many other parts of this State; also in Idaho, Arizona, Colorado and Mexico. As a further evidence of its worth, orders have been received recently from the proprietors of the following mills, all of whom are using these Concentrators, or have works in the immediate neighborhood of mills using them, viz.: One Concentrator for the Ophir G. & S. M. Co., near Newcastle, Placer County, ordered by Welly & Foster, who are using two Concentrators; one Concentrator for the Benton Mill, Mariposa County, ordered by Messrs. Dodge & Bro., of this city, who are using seven of them in the same Mill; one Concentrator, ordered by Messrs. Bigelow & Bro., of this city, for the Cony Mill, Jackson, Amador County, where they have already three of them in operation. They may be seen in operation at the GOLDEN STATE FOUNDRY, No. 13 First Street, San Francisco.

DESCRIPTION:

FIGURE 2 is a sectional view. C, is the Hopper in which the tailings are thrown. The tailings then distribute on the Distributor, B. The tailings enter the pan, A, at its periphery, and the debris discharges near its center, and passes off in the spout, F. The sulphurets discharge at gate, E, amalgam and quicksilver at plug, I. J, is a horn-shaped cavity for collecting quicksilver and amalgam. S, is the sulphurets. M, M, the agitating hars, with copper plate, coated with mercury. The agitating hars operate on top of the pulp. They are acknowledged to be, by those using them, a valuable improvement. [An extra charge of \$15 is made when these hars are furnished.] The pan, A, shows a curve-linear bottom, which gives a more precipitous descent near its center, for the purpose of forcing the sulphurets towards the periphery. It will be noticed that the centrifugal force diminishes towards the center of the pan, for which reason the inclination is increased for the purpose above mentioned.

The pan, A, has an inclination at its periphery, towards the gate, E, for the purpose of forcing the sulphurets to the discharge gate. At the same time the center rim is level; the sulphurets, S, being forced by the oscillating motion of the machine, and are discharged through a small opening in the pan at gate, E.

JOSHUA HENDY, Esq., San Francisco:—MY DEAR SIR: It gives me pleasure to inform you that the four "Improved Self-Discharging Prater Concentrators," which I purchased from you, have now been in operation in the Rawblide Mining Company's Mill for more than two months, and have more than realized my expectations. I am free to say it is the best Machine for saving quicksilver, Amalgam, and Sulphurets that I have ever used or seen used for that purpose. I shall take pleasure in showing any one interested the Machine in operation, who will call at the mill. I shall need four more as soon as the balance of our mill is completed. Yours truly, R. P. JOHNSON, Superintendent Rawblide Mill Company.

A Circular giving further particulars will be mailed to any part of the United States free of expense. Address, JOSHUA HENDY, 402 Montgomery street, San Francisco, Room 3, Fourth Floor.

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SAN FRANCISCO, SATURDAY, SEPTEMBER 15, 1866.

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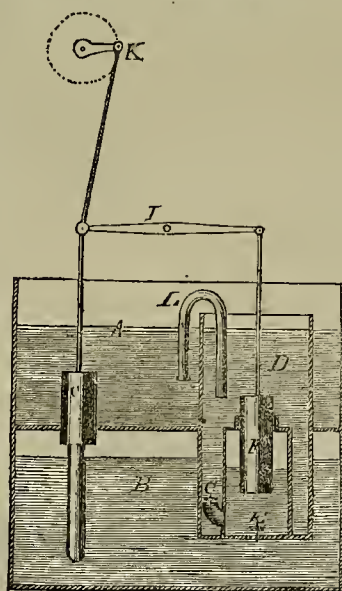
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COAL AND STEAM SUPERSEDED.

The following article, with the above imposing title, which appeared originally in the London *Mining Journal*, and which has been copied, with apparent approval, into many of both the Atlantic and California papers, is one of a class of articles, some of which are almost constantly before the public, and which are not only ridiculous in their assumptions, but oftentimes positively mischievous by means of the inducements which they hold out for people, frequently at great cost of time and money, to seek for impracticable and impossible results. The article came to us without any illustration; but in order that it may be more clearly understood, and its absurdity made perfectly apparent, we have handed it to a friend, who has kindly supplied us with a diagram, such as was described, and we have made such interpolations in the original, as were necessary to make the references to the same complete:

A great deal of interest is attached to some experiments which have taken place at Liverpool to demonstrate the merits of a machine invented by Mr. James Smith, of Seaford, and Mr. S. A. Chase, of Egremont. The invention offers a complete solution to the problem—*How can we obtain Perpetual Motion?*—and if it be generally employed for the production of motive power, the calculation of the Royal Commission for ascertaining the position of our coal supply will be so seriously interfered with as to be almost valueless, for it may be found that before many years have passed away men will no more think of using steam to obtain motive power than they now do of rubbing sticks together to get fire.



The invention is for an "improved arrangement of valves and other appliances for raising water and other fluids above their common level, the fluids so raised to be used as a motive power." The principle of the invention consists in constructing a reservoir having two compartments, A and B. The upper compartment has a lift pump, C, for raising water from the lower compartment, producing two different levels of the fluid in the one reservoir. Into the lower level of the fluid they insert a portion of a tank or tanks, D, allowing the fluid in the reservoir to have free play around them.

Inside, and on the bottom of the tank or tanks, is fixed a box, having two sets of valves, E and G, composed of gun-metal, one set opening to the fluid contained in the reservoir. These valves are so arranged that when the pair or set of valves in communication with the fluid in the tanks are open the other pair or set are closed, and shut off the communication, and vice versa. On the upper side of the box is a circular aperture, around which is fitted a cup leather valve. This valve fits the lower part of an air-tight cylinder or float, F, and which is inserted in the circular aperture, and by means of connecting rods the cylinder or float is attached to the end of a lever or beam, I. The other end of the beam is united by two connecting-rods to the crank of the engine, K, and the piston-rod of the lift-pump. On the shaft is fixed an eccentric to work the gear which actuates the tank valves. On the head of the tank they fix a feed pipe or syphon, L, which passes downwards into the upper compartment of the reservoir, having a valve attached to it, which is always kept beneath the high level of the fluid in the upper compartment of the reservoir, and thus acts as a syphon. They then fill the tank and feed-pipe with water, and raise the fluid in the lower compartment of the reservoir until the tank-valves are submerged. They then fill the upper compartment, which contains the lift-pump, to within a few inches of the lid of the tank, when the engine is ready for use. The production and cause of motion may be thus described:

The floats being hollow, and merely filled with atmospheric air, are lighter than a space of equal magnitude filled by a column of water, and it, therefore, follows of necessity that when the tank-valves are open to the gravitic force of the fluid contained in the tank, that force acts on the bottom of the float and causes it to rise, and when the valve is closed against the action of the gravitic force in the tank, and open to the reservoir, the float falls, there being no power beneath to support it, thus producing a reciprocating motion, which, acting on the beam, produces rotation of the crank, and at the same time actuates the eccentric, causing the tank-valves to open and close; and this motion is continued until the syphon-valve is closed, shutting off the atmospheric pressure by which the water or other fluid is forced into the tank by the syphon feed-pipe, and by which the water or other fluid is raised through the agency of the lift-pump into the upper compartment of the reservoir.

The apparatus described above is one of the many inventions for the purpose of obtaining perpetual motion, and, like the most of such, it displays considerable power of contrivance on the part of its inventors; and, like them all, it will be attended with non-success, and prove itself but a source of expense and disappointment to those interested, however fondly they may cherish it. As it forms a good illustration of the many contrivances for that purpose, we have chosen to lay it before our readers; and in order that they may be able to comprehend its operation, and to enable us to show its uselessness as a source of power, we have requested our engraver to prepare the annexed diagram to illustrate its operation.

When the valve from the tank to the box opens and the float ascends, a body of water equal to the displacement of the float enters; and when the valve from the box to the lower compartment of the reservoir opens and the float descends, the same quantity of water flows into that compartment. This quantity of water requires to be raised from the lower to the upper compartment during each revolution, as above described.

The power obtained is derived from the dif-

ference in the weight of the float raised the height of the stroke and that of the water descending to take its place, also the pressure of the column of water on the plunger, and the weight of the plunger in descending. The power expended is in pumping the same quantity of water used in the above operation from the lower to the higher level in the reservoir, the distance which it requires to be raised being equal to that of its descent.

UP STROKE.	Power spent.	Power obtained.
Assume the weight of the float to be 10 lbs., raised 1 foot.....	10 lbs.	
Weight of water descending 1 foot.....		70 lbs.
DOWN STROKE.		
Pressure on the float descending, 1 foot.....		70 lbs.
Weight of float descending, 1 foot.....		10 lbs.
The float in descending necessitates the displacement of a quantity of water from the tank of the reservoir equal to what entered during its up stroke.		
Weight of water to be raised by the pump.....	140 lbs.	

Which shows that the quantity of water raised during each revolution, must necessarily be the same as that used in the operation of the float, to cause its upward and allow its downward movement, and requires that the pump with the same stroke to be twice the area of the float.

The result here shown produces an exact balance of power, allowing nothing to overcome friction, much less to yield power for other purposes.

Inventors of apparatus having the same object in view as that we have examined, would do well to use the powers by which they are endowed on other and more profitable pursuits. If they would, instead, study thoroughly the laws by which matter operates, they would in the end find themselves wiser, possessed with more accurate knowledge, freer from disappointment, heavier in pocket, and more useful to themselves and those around them.

TRADE MARKS SHOULD BE RESPECTED.—Suit has been commenced in the Twelfth District Court by A. B. Falkenburgh and R. P. Thomas, against George R. Lucy and Charles Hymes, and for cause of action aver that they have been doing business under the firm name of the "Standard Soap Company," and one of the plaintiffs having invented a preparation or compound for washing purposes, and gave thereto the name "Concentrated Erasive Washing Powder," the said compound was offered for sale in packages of various sizes, marked with a label adopted by the plaintiffs as a trade mark. By reason of the excellency of the article and the efforts of the plaintiffs to place it before the public, it has acquired a high reputation as such, and has commanded and still commands an extensive sale. The defendants, totally disregarding the rights of the plaintiffs, have put up an article in imitation of the plaintiffs' article, which, with intent to defraud and deceive the public, they have caused to be put up in similar packages and labelled with a similar label. By reason of this fraud upon the public, and disregard of the rights of the plaintiffs, they have suffered great damage, and pray the court to grant them damages in the sum of \$5,000, and an injunction restraining the defendants from preparing, putting up or offering for sale said imitation.

AN EDITOR HONORED.—At the recent Commencement of Waterville College, Maine, the honorary degree of Master of Arts was conferred upon Warren Baxter Ewer, editor of the *Mining and Scientific Press* of this city—*S. F. Bulletin*.

In the absence of Mr. Ewer, we venture to say that the conferment was as worthily bestowed as it was unexpectedly received.

THE GREAT SAW OF THE TIMES.—Doctor McGowan's communication last week, calling upon our mechanics to produce a saw suitable for abbreviating a section of the Mammoth Tree, for exhibition at the Universal Exposition, has caused considerable discussion in the daily papers. Mr. James M. Hall, carpenter, advances the plan of fastening two circular snws at the end of an axle a foot long, and this axle to be fitted in a movable frame and driven by steam. It would cost a greater sum to get such an apparatus upon the ground than Mr. N. W. Spaulding (a practical and experienced mechanic and saw manufacturer), would ask to undertake the contract for severing the "log." Mr. Spaulding would employ a common cross-cut saw, with the slight variation of having the handles inclined to one side, to give room between the handles and the face of the cut for the operators' hands. He would make two cuts, say four feet apart, splitting out the intervening section, as required in proceeding. This would leave a true face on the block, which would be ready to split into blocks, in the shape required for mapping out the several States of the Union. The "stick," we believe, is between thirty and thirty-five feet in diameter, as it now lies. Its texture is about as soft as redwood, or the clear portion of Eastern hemlock. Two men could probably get through the job in the above manner in two or three weeks, at a cost of from \$100 to \$150.

Dr. Pinge-Dupuyten exhibited to us, on Monday, a chain saw, used by physicians in the amputation of limbs, which suggests a good theoretical plan for the construction of an implement for accomplishing the desired work. It would prove costly for a single purpose, and take a good deal of power to operate it, with danger of breakage. Thirty feet is a long cut, besides the chain would need to be nearly twice that length, in order to discharge the sawdust on each side, even if it could be thus excluded without difficulty.

Another mechanic offers to cut off as many sections of the tree as is desired, at a trifling cost, by the process of boring with a "shell auger." It was partially by this manner that the tree was cut down, and no doubt the laborers who performed the operation, considered it a practical bore—long before they finished.

WHAT GOLD COMPANY in the United States works quartz that holds less than \$6 or \$8 to the ton? and even then the rock must be decomposed or it will not pay.—[*American Journal of Mining*, N. Y.]

Many of the most profitable quartz mines of California, producing entirely hard rock, average less than \$6 or \$8 per ton. We have in view several of that character, one of which has been worked over twelve years, and is now worth upwards of \$100,000.

J. ARTHUR PHILIPS, the distinguished English geologist and metallurgist, who visited this State last winter, is now again on his way hither. Dispatches received the past week from New York announce his arrival in that city, and state that he will sail for California on the steamer of the 21st instant. It is presumed that Mr. Philips' second mission to this coast is in behalf of English capitalists.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Notes on the Chief Gold Districts Throughout the World.

BY PROFESSOR ROWLANDSON, F. G. S. L.

[Continued from Page 130.]

AUSTRALIA, NEW ZEALAND, ETC.

A short time prior to the discovery of gold in Australia, I had been led to infer, from the examination of ores derived from Central America, and Chili in particular, as well as from Mexico and various parts of South America, and comparing the accounts given of the rocks from which such ores had been derived, that a strong probability existed that it would be eventually discovered that the auriferous and argentiferous veins of these districts belong to geological zones more recent than the paleozoic. Shortly after the discovery of gold in the vicinity of Bathurst was made known in England, the writer was consulted as to the probability of gold being found on certain properties in various parts of this territory. The only sources of information then available were travels and topographical works by Sir Thomas Mitchell and others, Count Strzelecki's New South Wales and Van Diemen's Land, a work by Lozke, a Pole, and another by a German, whose name has escaped my memory. The only work amongst those named which treated in any marked manner on the age of the Australian rocks, was that of Count Strzelecki, published in 1845, some five years prior to the discovery of gold in the country described. In the treatise under notice, Count S. divided the rocks into four epochs—the first described as consisting of granites, porphyries, feldspar and serpentines, as consisting of erupted or crystalline and unstratified rocks; to the same era he has placed mica schist, silicious, and common argillaceous slate. Notwithstanding the admission in this description of erupted rocks: the general classification smacks largely of the Wernerian school, including several of its most manifest errors. Count S., in the work alluded to, makes a quotation from Humboldt's *Asie Centrale*, in consequence of the striking resemblance between the granitic masses of Australia and those found in the Altai, of which the following is a translation:

"Nowhere in either hemisphere have I seen granites which present more the character of erupted or effused rocks than the granites which surround the Altai group. These isolated rocks, like porphyries or basalts, are unaccompanied by gneiss or mica schist. These rise from the steppe at the base of the Alpine mountains in forms the most fantastic. When upon the steppe of Platovsk, we first perceive in the horizon the saw of the Tigirezk Alps, which rises itself near the rocky borders of Lake Kolyvan. Through the whole of this region the traveler is compelled to notice numerous eruptions of granite, which, in many places, are of quadrangular forms, and springing from perfectly level ground. These rocks are sometimes in lines, and sometime scattered over the plain, assuming the most fantastic resemblances of narrow (*etroit*) walls, turrets, or polygons. The smallest hills resemble rostra, beeches, or funeral monuments. What especially gives a strange appearance to this region is the contrast of height and volume of the gneiss masses. Some possess an elevation of five hundred feet—for example, the *Vysokaya Gora*; others scarcely attain a height of seven or eight feet, which reminds the observer of the diminutive volcanic upheavals which in Spanish America are designated 'Mal-pays.' On arriving at the village of Sanchkina or Saachka, the traveler finds himself at the center of these eruptions. * * * * *

"Other very extraordinary forms again present themselves in the granitic rocks which rise along the southern slope of the Altai, between Boukhtar-Miask, Naryn, and the Chinese station of Baty. These are either ball-shaped and flattened hemispheres, or cones lying in the middle of the plain of Haut-Irtische, cones often terminating with lateral spurs in the form of very low and extremely elongated walls, causing the surveyor to at once pronounce them as originating from the effect of matter in a fluid state, being ejected from a crevice."

To such readers of the SCIENTIFIC PRESS as may have followed the writer from the commencement of this series, the above quotation will form an instructive illustration of the

character of the Altai gold field, which was alluded to in a previous paper; those who feel disposed to follow the writer to the conclusion, are requested to bear the same in remembrance, as it will certainly once again be alluded to, and probably oftener.

I am not aware that the more detailed observations of the public geological survey has materially changed the general outline of the so-called first epoch of Count S., which, as delineated by him, commences at Wilson's Promontory, 39° south latitude, and continues almost uninterruptedly to Illawarra, in 35½°, the widest portion, or about three hundred miles, being a little north of the celebrated Balarat gold field. The widest part of the region is found between 37° and 35° south latitude, where, with some extensive spurs, it is, perhaps, not less on an average than 120 miles wide, and how far into the interior similar rocks may be found is unknown. In this district lies the Australian Alps, at the southwestern slope of which is found the celebrated Victoria gold region. Granite is described as constituting almost the entire floor of New South Wales, to the entire exclusion of mica slate and gneiss, and as extending far into the interior of New Holland, in masses of mamillary, tuberos, globular or botryoidal form.

The New South Wales or Sydney gold district is formed of similar alternating rocks of granite, basalt, etc., but these are less massive than those connected with the Australian Alps, which, so far as at present ascertained, occupy a detached portion of a much greater breadth, namely, from about sixty miles to the west of Sydney until the great central plain is reached, the floor of which latter is probably composed in a large proportion of granite or granitoid masses, the entire width as known cannot be less than two hundred miles.

The second epoch of Count S. is stated to consist of unstratified quartzose, felspathic and clay stone porphyries, granular quartz rock, columnar, schistose and amorphous greenstone, serpentinite, basalt, trachite silicious breccia, compact, massive, and foliated granular limestone. The description just given is indicative of highly altered rocks, in consequence of the proximity of the igneous ones just described. They are not extensive, whether considered as respects either depth or area, and are generally found in detached portions, separated at wide intervals, each area possessing its own strike and dip, generally presenting, however, evidences by which the former continuity may be traced. The organic remains found in this series consists of varieties of *fenestella*, *productus*, *terebratula*, and a *conularia* (*levigata*) *spirifer*, *pleurotomaria*, *pachydomus*, *belerophon*; and north of Canoblas crinoidal columns have been found, accompanied by *orthoceras* and impressions of trilobites, not exceeding half an inch.

[To be Continued.]

[Written for the Mining and Scientific Press.]

The Syphon Discussion.

Messrs. Editors:—Your article on "The Use of the Syphon in Mines" has attracted my attention. I have had a fifteen years' experience with an inch and a half lead pipe syphon, in drawing water from a well on a hill-side, and discharging it at a lower level a half mile distant.

The first month's experience was that of almost daily success and disappointment. The accompanying diagram, used in illustrating your article, will answer my purpose. I had the same difficulties with the long end of my syphon that your correspondent had; met with the same difficulty in filling the syphon from the funnel at top, though only with the long end. This led me to think that it must be owing to the deflections in the pipe. Accordingly, after having filled the pipe with all the water it would take, I tapped it at each of the most elevated points or arches of the deflections with a small awl; air rushed out, and when all had escaped and water made its appearance, I closed the orifices. In this way the syphon was, and always can be, perfectly filled with water.

Now, if every part of the syphon is tight, it ought to work well, provided the distance between the surface of the water in the well and the highest point at B, is not more than twenty-eight or thirty feet. Very few syphons will draw water effectually from a depth greater than twenty-five or twenty-seven feet, particularly if it has an altitude of a thousand feet or more above the level of the sea—the same law governing the action of the syphon as does

that of the common suction pump; both depend upon the pressure of the atmosphere to force up the water, either in the pump-stock or the short end of the syphon.

I found that from very pure soft well water more or less air would re-accumulate in the upper part of the deflections, requiring to be removed as before; and as the largest accumulation was always at B, instead of the cock and funnel alone, I substituted a copper globe of eight inches diameter, and placed the cock and funnel at top. Then when the pipe and globe were filled with water, and the cock on the globe closed, opening the cocks at the ends, A and C, would cause an uninterrupted flow for weeks, or until another accumulation of air had taken possession of the upper portion of the deflections, and nearly or quite filled the globe; then I would close the cocks at A and C, again, draw off the air from the deflections, and fill up the globe as before.

I had so much difficulty with the two principal deflections, that at last I affixed a globe to each; then it would work perfectly for three or four months without stopping, except when the water in the well would fall more than twenty-eight feet below the globe at B; then it had to stop, for it was as high as the pressure of the atmosphere at that locality could force it. Sacramento, Sept. 3d, 1866. W. W.

[Written for the Mining and Scientific Press.]

More About the Syphon.

EDITORS MINING PRESS: The Arthur mine, near Gilroy, has a syphon made of one inch gas pipe, 700 feet in length, with an elevation of fifteen feet to overcome. It has a small hand pump attached to it near the outlet, to exhaust the tube of air and start the flow of water. It is a perfect success, and far superior to lead pipe. It is in joints, and any joint can be taken out to remove any obstruction, by sediment or otherwise, and again replaced in a few minutes. It requires no protection, as it will bear a heavy stroke or pressure without yielding. It is much cheaper than lead pipe. It can be bent into any desired angle or shape without kinking and without heat; and when no longer needed, it can be taken out conveniently and applied to other places or uses. In putting down it requires the same means to make it air-tight, as when used for conveying gas. Any one acquainted fully with laying gas pipe can give the needed information.

Muddy water running through a syphon will make deposits of sediment. In the lead pipe this cannot be removed; in the gas pipe the joints suspected can be taken out and heated in a smith's forge, cleaned and replaced. To avoid running muddy water, start the syphon by means of the pump (and this is much better and more convenient than the mode adopted by your "Yon Bet" correspondent), after the water has settled in your reservoir; then graduate your stop-cock so that it will cease flowing about the time the work begins the next day. I think the outlet ought not to be too much below the level of the reservoir, as this creates a much heavier draught upon the walls of the syphon, and is more likely to cause leaks of atmospheric air through any deficiencies, and perhaps even through the iron. In regard to the accumulation of air in the highest point of the syphon, I think, for the reasons stated by you, it is liable to occur under the best possible arrangement; but by the use of the pump the flow can be started again in a few moments.

Respectfully, D. HUBER.
Gilroy, Santa Clara Co., Sept. 5th.

[Written for the Mining and Scientific Press.]

Mining in Amador and Calaveras—Sulphurets.

EDITORS PRESS:—I have just returned from a hasty tour of inspection through several of the mining districts in the counties of Amador and Calaveras. Taking the stage at Latrobe, after a ride of some two hours I found myself on the borders of the ancient '49 placers—dug out and abandoned many times over, and now resounding with the thud of the quartz stamps—throbs of a new life—pulses of golden hopes. A short stop at Drytown enabled me to gather some valuable statistics, and many valuable specimens of ores from the neighboring mines. But Drytown has been too often spoken of by correspondents to allow any limited observations to be interesting. The same will apply to the town of Sutter. This stirring and much alive village boasts a foundry and machine shop, and has a very thriving and growing look. The great Haywood mine, worked to the depth of more than 1,300 feet (200 feet below the level of Montgomery street);

is the main life-artery of the place. Everybody knows about its Monte Christo yields of bullion. It is not the only mine here, by any means, but the principal one. It is situated on the great lode traceable from Mariposa through Tuolumne, Calaveras, and Amador counties—probably the most remarkable mineral vein development in the world. It is often called the "Mother Lead"—a very appropriate name. It consists of several members, or parallel leads, generally three in number. These are often separated to a distance of several hundred feet, and again coming so near to each other as to seem to be one single lode. The same or similar condition seems to prevail in most long and extensive lodes in all parts of the world. On this same vein is situated the Oneida mine, two miles south of Sutter. It has been long worked, and recently passed into the hands of its present owners. A vigorous and systematic style of work has been initiated. A 40-stamp mill is going day and night. Several new shafts, with new pumps and appropriate hoisting machinery, enable the mill to get its full supply of ore. Two miles further south is the town of Jackson, situated nearly over the great lode. The Coney mine and mill, just in the edge of town, have amply sustained the character of the Mother Lead at this point. The ore has heretofore yielded some seven or eight dollars per ton of free gold. The sulphurets, consisting mostly of yellow iron pyrites, concentrated from the tailings, of which they formed about ten per cent. by weight, were sold on the spot for \$180 per ton. The mill has sixteen stamps, and both mill and mine have been leased for twelve months to Messrs. Meader & Ambler, under the supervision of the latter gentleman. He has put up new concentrating machinery—an improvement of his own on the new shaking table. It seems to do its work well, and is not liable to get out of order. A good concentrator, by the way, is very much needed. Hungerford's late improvement seems to do its work very satisfactorily, but, unfortunately, those erected at the Oneida mill lacked strength in some part of its structure, and their use was temporarily discontinued, much to the regret of the mill owners. It seems the remedy of this one defect is easily arrived at. I suppose Hungerford will guard against the trouble hereafter.

The saving of sulphurets and their subsequent successful treatment for gold is creating a new era in California gold mining. Most of our mines hold a very large percentage of pyrites of iron, say from two and a half to twenty-five per cent. These hold usually valuable amounts of gold, but refuse to yield it up to the ordinary modes of amalgamation. I have seen mines on the Mother Lead abandoned because of the scanty yield, say \$5 per ton in free gold, holding at the same time twenty per cent. of sulphurets assaying at the rate of from \$300 to \$500 per ton. All this has, until very recently, been thrown away. Even now but few mills have fixtures for separating the sulphurets, but the valuable matter is being pretty generally hoarded; the tailings are no longer washed away but held for future use. Sulphuret men are now desirous of purchasing, and the millmen can usually get a fair price for the article on the ground. Many are not disposed to sell, but contemplate working their own sulphurets by and by, when the mode of treatment is better understood.

Mr. Ambler, formerly of Austin, I believe, backed by Meader of Stockton, the wealthy copper operator, is the main sulphuret man of Jackson. Beside the lease of the Coney mill, they own a mill and rich sulphuret mine near Volcano, and have also purchased a mill on Sutter Creek, just above the Haywood mine, which they are fitting up for sulphuret working. They have contracted, it is understood, for all Haywood's sulphurets. Their success will give new confidence to mine owners holding sulphuret mines with but limited amounts of free gold.

Auriferous sulphurets of great value are not confined alone to veins. I have myself taken samples of pyrites from the ordinary slates, far from any veins, and found gold in paying quantities. This I have verified in Placer county, near Auburn, and in Tuolumne county, near Sonora.

The heaviest percentage of auriferous sulphurets seems to exist in veins in granite, where the vein matter is frequently almost entirely pyrites. The veins contained in slate have usually less pyrites, but I think the pyrites are usually richer per ton. I have lately examined several groups of veins in granite, presenting peculiar and interesting features. I shall take the liberty of speaking hereafter of the Pine Grove, Volcano, West Point and Railroad Flat districts, all in the granite or limestone. Truly yours,
September 1st, 1866. SULPHURET.

Mechanical.

GLASS FOR DEAD-LIGHTS, ETC.

Glass, though regarded by people generally as one of the most ordinary materials with which we have to deal, is nevertheless one of the most extraordinary substances ever produced by the hand of man. Notwithstanding the many attempts to fix the period of its discovery, it is doubtful whether we have any correct idea of the time of its original introduction; and it is even more doubtful whether we actually know as much of its properties now, as was known in the days of Aristotle, 300 years before the Christian era.

Certain it is that the ancient Egyptians cast glass in large masses, and used it as columns, pedestals and other parts of their temples; and it is equally certain that they must have possessed certain information with regard to its manufacture of which we are now ignorant. The composition and process used by them is unknown to us. No glass manufacturer of the present day could toughen glass so as to make it at all answerable for the purposes to which it was employed 2,000 years ago. That it may be toughened to a certain extent, by a process of annealing, as practiced by plate-glass manufacturers and others, we know full well; but it is more than probable that the ancients employed some mixing process in the pots, by which they arrived at results which moderns have vainly sought to attain by annealing.

This toughening process is one of the most important desiderata connected with its manufacture. The practice of employing it for floors and sidewalk or dead-lights, and for water-pipes, etc., has recently attracted considerable attention to this particular. A recent article in the *Building News* gives the tensile strength of glass in bars at one ton to the square inch, and its compressive strength at twelve and a half tons. Thin plates are stronger in proportion than thicker ones; the same is also true of iron. To bear a transverse strain, it is about one-eighteenth as strong as iron.

Glass, like cast iron, is found to be exceedingly variable in its strength—some specimens standing a much greater strain than others of the same size. It is thought experimental researches will yet result in great improvements in this useful material. At all events, our knowledge with regard to its manufacture is far from being satisfactory, and a universal impression prevails among all skillful and intelligent manufacturers, that there is abundant room and good reason to hope for future improvement.

With regard to the glass sidewalk or dead-lights, now so common in this city, and which any one who traverses our streets must see, from the numerous fractures and openings they present, are constructed of an exceedingly poor material, it must be admitted that they are most execrable nuisances, inflicted upon our citizens by men who appear to possess neither science, taste or decency; still, perhaps we must excuse them, to some extent, from the necessities of the times, which require us to build both high and low, and to make the fullest use of every foot of ground not absolutely required for the carriage-way. If the practice is to be continued, it is hoped that our glass manufacturers will endeavor to furnish a better and tougher material than that hitherto employed. The surfaces of the plates, moreover, should be ground to prevent the slipping, which is so dangerous upon the smooth plates now almost universally used. Would it not be a good card for our San Francisco glass makers, if they could announce some valuable improvement in this direction? Shall we not hear from them?

GLASS BRICK MOLD.—A new mold for bricks is in use in Baltimore which is said to turn out most elegant specimens of pressed brick. The mold of wood is lined with plate glass, which forms a perfectly smooth surface and naturally gives excellent results. The cost of the mold is but little, if any, more than the ordinary wooden mold, and it can be easily applied to brick machines already in use. The brick comes out smooth with perfect sides and edges, the mold being raised from the palette or plate on which the bricks are made. It has, we understand given perfect satisfaction wherever used.

HEAT GENERATED BY MECHANICAL POWER OR FRICTION.—Some of the French scientific journals have been seriously discussing the feasibility of employing mechanical power to generate heat for certain practical purposes; thus reversing the usual order of things, of employing heat to produce power. An apparatus for this purpose has been arranged by M. Pelou, who calls his device a "Thermo-generator." It consists of a wooden core covered with hemp, revolving inside of a copper core; the two are enclosed in an outer vessel, through which a current of air is made to pass into a car or room which it is designed to warm. The air, in its passage, is heated by the friction produced by the wooden core revolving against the copper one. The inventor thinks that this will be found the most economical way of warming factories, work-shops, railway cars, etc. In the case of railway cars, the power requisite can be taken off from the axles. It is estimated that a train of forty cars can be warmed in this manner at an expense from the engine, not to exceed 2-horse power. *Cosmos* says that the plan has been submitted to a practical test, which has proven all that the inventor claims for it. The project is certainly correct in theory; for it is an established proposition that whenever heat is produced in overcoming friction, that heat is the exact reverse of the force expended. It is said that one of these heat generators is in actual use in Prussia; turned by a force equal to one-twentieth of a horse power, in ten minutes the air escaping from the apparatus had a temperature of 70°.

CONCRETE FOR BUILDING.—An ingenious application of the process of molding blocks of concrete for building purposes was patented recently in England. The inventor proposes to erect houses by literally casting them of concrete in the place they are intended to occupy. An ordinary concrete foundation is first laid, and upon the foundation horizontal frames, constructed of boards lined with zinc or other metal, are set up on edge, so as to form a kind of trough for receiving the concrete. By the insertion of suitable cores, holes for the insertion of the joists, or for other purposes, may be molded in the concrete as the work proceeds. The proprietor of the patent is now in Paris, superintending the erection of some houses on this principle, and we believe it is the intention of the French Emperor to build some laborers' cottages of this kind at one of the imperial farms. The invention will be illustrated at the Paris Exhibition.

The above is no doubt a very useful and practical idea for building, but there is nothing new in the idea. We saw concrete houses put up in that manner, in the neighborhood of Beaufort, South Carolina, more than thirty years ago; and we presume the same plan may have been adopted in other portions of the country.

WORKING FORCE FROM WATER PRESSURE.—There has recently been exhibited in England a "hydraulic coal cutting machine" which, with a supply of fifty gallons of water per minute, at a pressure of 300 pounds, will do as much work as twenty men. Such a machine is at work in a mine near Leeds; and when once supplied with water, it keeps going, using the quantity over and over again as long as may be desired, making twenty-five strokes a minute. It runs on the rails laid in the mines, and by the mere pressure of water will cut a length of nearly four feet an hour, and is so simple that an ordinary miner can work it.

The above is all very well and quite probable, with the exception of "using the quantity over and over again," which is simply an absurdity, unless some other power is present to elevate the water as fast as used.

THE PNEUMATIC DISPATCH, by which small parcels are transported from one part of a city to another, by means of the exhaustion of air from a tube, is familiar to our readers. It would appear from the following that there is some reason to think that this device may eventually become of much practical value: According to a report recently made by the directors of the Pneumatic Dispatch Company, it appears that 120 tons of goods can be transported through the tube every hour, at a speed of eighteen miles an hour, and that the cost is less than a penny (two cents) per mile. They anticipate large dividends from the line when completed to points outside of the city.

Scientific Miscellany.

A SCIENTIFIC METHOD OF CURING HAY.—It has been affirmed by eminent agriculturists that hay could be safely deposited in the mow in a semi-green state, and come out green, fragrant, and exceedingly palatable to stock, by sprinkling upon each load from four to six quarts of air-slacked lime. The philosophy of it lies in the chemical fact that lime is a powerful absorbent. The Rev. E. Willis, of Rockford, Ill., has tested this process. The weather last season was most inopportune for making hay. Finding it would be impossible to save the hay by out door exposure, he carted it into his barn in a heavy, green condition. He sifted the lime upon it, and it cured handsomely, and came out this spring as inviting as flowers pressed in an herbarium. His horses and stock devoured it greedily, and preferred it to the best sun-cured hay.

If the above is reliable, and we have every reason for believing it so, this fact furnishes a valuable bit of scientific knowledge to the farmers, more valuable, perhaps than the method we described last week, for preserving hay green throughout the winter. Necessity often compels haymakers to choose between the alternative of leaving their hay out to be spoiled by a drenching rain, or hurrying it into the barn with an almost certainty of its being spoiled there by heating and molding. Lime will absorb all the vegetable moisture and save the hay; while salt gathers moisture and fails in most cases to preserve it.

FALSE BUTTER.—We believe it is not generally known to housewives that there is a large quantity of very valuable solid material fed to the pigs with the buttermilk obtained in the dairy. A dairy-man, who always has an eye to science and economy, gives the following directions for saving this substance:

Place a common wire sieve over a milk pail, and pour the buttermilk into it; with a spoon move the straining gently from one side of the sieve to the other, until the buttermilk is drained off. What is left in the sieve is called false butter, and makes excellent shortening. If there is a large dairy, and butter made during the season, the strainings can be tried out, by placing them in an iron kettle over the stove, and simmering slowly until the sediment settles to the bottom. Turn off the top. The oil thus obtained answers the same purpose as real butter, in every department of cookery; besides it will do to fry cakes in, or oil cheese, etc. If a dairy-woman has never been in the habit of straining the buttermilk, she will soon learn, by so doing, that it is quite a saving.

THE AMERICAN MANUFACTORY OF MAGNESIUM.—So important has become the demand for the metal magnesium that a company has been organized for its manufacture. The *Boeton Bulletin* says: "The American Magnesium company have just commenced the manufacture of magnesium from dolomite, or magnesium limestone, by the Sonstadt method, and are producing the metal, both crude and refined, in considerable quantities. We do not doubt but that, as in other matters, perseverance will conquer all obstacles, and insure its success."

TO PREVENT GUNPOWDER MARKS.—Dr. Davies in a recent letter to the *London Lancet*, states that he has found the following treatment most successful: smear the scorched surface with glycerin, by means of a feather, then supply cotton wadding; lastly, cover with oil silk. In one case the discoloration was very great, the patient looking more like a mummy than a living being. It entirely subsided in a month by the above treatment.

INCOMBUSTIBLE FABRICS may be made as follows: A solution of acid phosphate of lime is treated with ammonia in excess, filtered and purified by animal black, concentrated by evaporation, five per cent. of gelatinous silica added, and the whole evaporated into a crystalline mass. The fabrics are immersed in a solution containing thirty per cent. of this mixture (called bottine), thirty-five per cent. of gum, and thirty-five per cent. of starch.

PAPER FOR PYROTECHNICAL PURPOSES is prepared from Chinese or Japanese silk paper, which has been treated like gun-cotton, and afterwards saturated with a solution of chlorate of barytes, or nitrate of strontian, chlorate of potash, etc. Paper so prepared is well adapted for the production of colored lights.

SMOKING OPIUM.—The true method of preparing opium for smoking is not known outside of the "Flowery Kingdom." No Chinese smoker will put up with an imitation, however much alike it may appear to an European. There is no drug which is more often or more easily adulterated than opium. The Turkey opium, which comes from Asia Minor, is adulterated with crushed raisins and "ealep." The former may be detected by ascertaining, with Barreswil's or any other cupro-potassic solution, whether grape sugar is present in the opium; the latter will be recognized by tincture of iodine, showing the reaction of starch.

ARTIFICIAL VS. ANIMAL HEAT.—Eminent engineers state that it has never been found possible to construct a steam engine that could utilize more than one-ninth of the energy of the fuel burnt under the boiler; one-fifth is quite as high as the practical average, but distinguished chemists assert that fully one-fifth of the heat derived from the combustion of food in the human body can be made available in the form of actual work.

THE COLOR OF GOLD.—Gold, as seen by the light reflected by its surface, is yellow. When gold is precipitated upon the walls of a glass jar by oxalic acid, its color is blue. When we hold a piece of gold leaf to a light, the color transmitted is green. This transmitted green color is supposed to be due to a mingling of the blue and yellow colors already described.

TO DETACH COPPER IN LITHARGE.—Put a small quantity into nitric acid; after a few moments dilute with water, and insert a piece of burnished steel—a polished knife-blade, for instance. If there is any copper present it will appear in the shape of a reddish deposit on the blade.

CAUSE OF RENNESSIN INFLAMMATION.—A series of careful experiments have recently been made upon animals with regard to the character of the blood coursing through inflamed parts. The amount of oxygen present has been estimated by treating the blood with carbonic oxyd, as recommended by Bernard, and the following conclusions have been arrived at:

1. That the venous blood returning from an inflamed part contains constantly more oxygen than the blood of the sound side, the proportion being as 1:1.5 or 2.5.
2. That the venous blood of the inflamed side contains more carbonic acid; and
3. That it is to the excess of oxygen in the venous blood, rendering it of brighter tint, that the increased redness of an inflamed part is due.

BOILING LIQUIDS IN VACUO.—All liquids in *vacuo*, as a general rule, boil at a temperature of 140° lower than in the open air, because of the diminished pressure of the atmosphere, which is usually about fifteen pounds on the square inch, when the barometer stands at thirty inches. At the elevation the "boiling point" of water is 212°, but at higher or lower measurements it is more or less. If you fill a tumbler with cold water, and place it beneath the exhausted receiver of an air-pump, the fluid will boil at 72° (212—140=72), or after a few minutes exposure to the rays of the sun at noon, any hot summer day.

HARDENING PLASTER OF PARIS.—Kumman, who has given much time to the study of the coloration of minerals, and their power of absorbing various organic substances, states that, if plaster of Paris, with enough water in it to give it the constitution $\text{CaO}, \text{SO}_2 + 2\text{H}_2\text{O}$, is steeped in a bath of hot-pitch, it loses its two equivalents of water, which are replaced by a corresponding quantity of pitch, and that it then becomes very hard and susceptible of a polish, so that it would be available for the construction of many articles for ornament or use.—*Journ. Franklin Institute.*

A SUBSTITUTE FOR BRITANNIA METAL.—An alloy composed of three pounds of lead, sixteen pounds of tin, and three pounds of zinc, is capable of being rolled out into plates for making white ware of superior quality, as a substitute for Britannia metal.

ABSOLUTELY PURE IRON.—The iron obtained by heating in the nitride of Hydrogen has a silver white color, is extraordinarily ductile, and may be easily cut with a knife. It dissolves in acids without leaving any residue, and is certainly the purest form of iron yet known.

ABOUT VINEGAR.—It was an observation made by Scheele, but the fact has recently been published as a new discovery, that ordinary brown vinegar will keep bright and clear for any length of time if heated to the boiling point for a few minutes.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, September 8.

12 shs Ophir at 202½ per foot.
 36 shs Ophir at 200 per foot, s. 30.
 36 shs Ophir at 205 per foot, h. 30.
 12 shs Ophir at 203 per foot.
 5 shs Chollar-Potosi at 140 per foot.
 5 shs Chollar-Potosi at 141 per foot.
 10 shs Chollar-Potosi at 141½ per foot.
 10 shs Chollar-Potosi at 142 per foot, h. 10.
 1 sh Yellow Jacket at 780 per foot.
 2 shs Yellow Jacket at 780 per foot, b. 10.
 1 shs Yellow Jacket at 777½ per foot.
 2 shs Yellow Jacket at 785 per foot, b. 15.
 1 sh Yellow Jacket at 775 per ft.
 1 sh Yellow Jacket at 775 per foot c.
 1 sh Yellow Jacket at 774 per foot c.
 4 shs Yellow Jacket at 780 per foot, s. 15.
 2 shs Belcher at 120 per foot.
 1 sh Belcher at 125 per foot, b. 30.
 1 sh Savage at 1000 per foot s. 30.
 1 sh Savage at 1105 per foot, s. 30.
 69 shs Overman at 14½ per share, c.
 12 shs Overman at 14½ per share, h. 3.
 30 shs Overman at 14½ per share
 10 shs Overman at 14½ per share, s. 3.
 5 shs Overman at 14½ per share.
 15 shs Overman at 15 per share.
 5 shs Overman at 15½ per share c.
 5 shs Overman at 15 per share b. 5.
 14 shs Overman at 14½ per share, s. 30.
 20 shs Overman at 15 per share, b. 5.
 5 shs Confidence at 59 per share.
 7 shs Confidence at 53 per share.
 6 shs Confidence at 57 per share, s. 30.
 1 sh Imperial at 98½ per share.
 20 shs Sierra Nevada at 8½ per share.
 20 shs Sierra Nevada at 6½ per sh ass. nnp.
 Amount of sales..... \$23,294.53

Monday, September 10.

12 shs Ophir at 200 per foot.
 12 shs Ophir at 202½ per foot
 12 shs Ophir at 204 per foot.
 4 shs Gould & Curry at 700 per foot.
 5 shs Chollar-Potosi at 141 per foot, h. 30.
 4 shs Chollar-Potosi at 139 per foot.
 1 sh Yellow Jacket at 775 per foot.
 1 sh Yellow Jacket at 785 per foot, b. 30.
 1 sh Yellow Jacket at 777½ per foot.
 3 shs Yellow Jacket at 785 per foot, s. 10.
 1 sh Yellow Jacket at 772½ per foot s. 30.
 1 sh Yellow Jacket at 777 per foot s. 3.
 2 shs Yellow Jacket at 780 per foot.
 1 sh Yellow Jacket at 785 per foot, b. 7.
 1 sh Yellow Jacket at 780 per foot, s. 5.
 1 sh Yellow Jacket at 790 per foot, h. 30.
 1 sh Belcher at 120 per foot.
 4 shs Crown Point at 875 per foot.
 4 shs Alpha, G. H., at 50 per foot.
 5 shs Confidence at 53 per share.
 5 shs Overman at 15 per share.
 5 shs Overman at 15 per share s. 3.
 10 shs Overman at 15 per share, s. 30.
 5 shs Overman at 15½ per share, h. 10.
 10 shs Sierra Nevada at 7 per share.
 40 shs Sierra Nevada at 6½ per sh ass. nnp.

AFTERNOON SESSION.

12 shs Ophir at 205 per foot.
 12 shs Ophir at 207½ per foot.
 12 shs Ophir at 208 per foot.
 2 shs Savage at 1100 per foot, s. 30.
 5 shs Chollar-Potosi at 139 per foot.
 11 shs Chollar-Potosi at 143 per foot h. 30.
 30 shs Chollar-Potosi at 145 per foot, h. 10.
 5 shs Chollar-Potosi at 145 per foot, h. 30.
 5 shs Chollar-Potosi at 145 per foot.
 5 shs Chollar-Potosi at 150 per foot, h. 30.
 2 shs Belcher at 117½ per foot s. 30.
 1 sh Belcher at 116 per foot, s. 30.
 8 shs Crown Point at 865 per foot.
 4 shs Crown Point at 860 per foot.
 1 sh Yellow Jacket at 787½ per foot.
 1 sh Yellow Jacket at 790 per foot, s. 5.
 1 sh Yellow Jacket at 800 per foot, h. 5.
 5 shs Bullion at 26 per share, h. 30.
 1 sh Empire M & M Co. at 100 per share.
 1 sh Empire M & M Co. at 97½ per share.
 1 sh Empire M & M Co. at 95 per share.
 10 shs Overman at 14½ per share.
 10 shs Overman at 14½ per share, h. 10.
 10 shs Overman at 14½ per share, s. 30.
 5 shs Sierra Nevada at 7 per share.
 30 shs Sierra Nevada at 7½ per share.
 5 shs Sierra Nevada at 7½ per share.
 35 shs Sierra Nevada at 8 per share.
 Amount of sales..... \$32,840.00

Tuesday, September 11.

4 shs Gould & Curry at 690 per foot.
 4 shs Gould & Curry at 690 per foot, s. 3.
 12 shs Ophir at 212½ per foot, b. 30.
 12 shs Ophir at 206 per foot.
 12 shs Ophir at 208 per foot.
 12 shs Ophir at 207½ per foot.
 12 shs Ophir at 212 per share h. 30.
 24 shs Ophir at 205 per foot, s. 30.
 12 shs Ophir at 207½ per foot, s. 30.
 12 shs Ophir at 209 per foot.
 12 shs Ophir at 210 per foot, h. 3.
 24 shs Ophir at 210 per foot.
 12 shs Ophir at 210 per share, s. 30.
 3 shs Yellow Jacket at 782½ per foot.
 2 shs Yellow Jacket at 780 per foot.
 3 shs Yellow Jacket at 782½ per foot, h. 15.
 1 sh Yellow Jacket at 777½ per foot.
 7 shs Yellow Jacket at 775 per foot.
 1 sh Yellow Jacket at 773 per ft b. 3.
 1 sh Yellow Jacket at 780 per ft, b. 15.
 1 sh Yellow Jacket at 772½ per foot.
 1 sh Yellow Jacket at 775 per ft. c.
 1 sh Yellow Jacket at 785 per foot, b. 15.
 5 shs Chollar-Potosi at 145 per foot, h. 30.
 2 shs Chollar-Potosi at 145 per foot.
 6 shs Chollar-Potosi at 144 per foot, h. 30.
 3 shs Imperial at 98½ per share.
 5 shs Confidence at 57 per share, s. 30.
 5 shs Confidence at 57 per share, s. 3.
 5 shs Overman at 14 per share, s. 3.
 10 shs Overman at 13 per share, s. 30.
 10 shs Overman at 12½ per share, h. 10.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, Sept. 15th, 1866.

The Money Market, since our last reference, has manifested a considerable change for the better, and more ease is apparent. The decreased amount of treasure sent forward to the East by the steamer of the 10th—only some \$700,000—to some extent accounts for the stringency of the market at that date. Money can now be had in Bank, on good first class paper, at 1½¢ per ct. per month. Savings Banks are obtaining from 1 to 1½¢ per mo., repayable in monthly installments, on the best mortgage security. The call for loans of this nature is quite large, with comparatively small cash balances on hand to meet the demand.

The Bank of California has declared a dividend of 1¢ per ct. per mo., for the month of August on their capital stock of \$5,000,000.

Gold Bars are quotable at \$40; with a free demand for the China market. Silver Bars are dull at 2¢ per cent. discount.

Coin Drafts on the East are given at 2½¢ per cent. premium; Currency do. at 40¢ per cent. premium on gold. Telegraphic Transfers are made at 4½¢ per cent., and 60 days' Sterling bills are sold at 49d.

Gold in New York on the 14th, by telegraphic advices, was sold at 146, and Sterling at 107.

During the past week some \$50,000 of Legat Tender Notes were sold within a range of 71½¢ to 72½¢, and were quoted yesterday at 71½¢. U. S. 7-10 Notes, August issue, were sold at 75½¢ cents, and June issue at 77¢ to 76¼¢ seller 30.

City Stocks are inactive. We note the sale of 100 shares Fireman's Fund Insurance Company at 119¢ per cent. The Front Street, Mission and Ocean R. R. Company have, up to this date, issued 5,000 shares of their stock, on which \$20 per share have been paid.

Since our publication of the condition of the Savings Banks of this city, on the 25th of August last, and in which no report was given of the California Building, Loan and Savings Bank, the Board of Directors of this institution—earlier than was anticipated—submitted their fifth annual report to the shareholders on the 10th inst., and from it we obtain the following:—Assets, \$500,000; an increase of \$249,774.75, in one year. This amount, we presume, for the most part, comprises deposits, and if added to the previously reported deposits of the Savings Banks of this city will swell the aggregate to \$9,260,164.52. The profits of this Bank are set down at \$27,423.56, for the six months ending April 30th, and deducting interest due and paid to depositors, dividend to stockholders, and expense of management during that period, amounting to \$22,122.25, leaves a net gain of \$5,301.41. This surplus sum placed to their previously accumulated reserve fund, together with the paid up capital, gives a total of \$56,000 as a fund against any loss, making the entire reserve of the Savings Banks for the first six months of the present year, as near as can be ascertained, \$308,918.94. The profits of this institution—\$27,423.56—increases the former statement of the gross earnings of all the Savings Banks to \$521,214.10. The amount of "cash on hand" is not reported. A dividend of 1¢ per cent. per month to depositors and 1½¢ per cent. per month to the stockholders has been declared by the Board as set forth in their report.

At a meeting of Odd Fellows held at their Hall, on the evening of the 12th inst., preliminary steps were taken towards the formation of a Savings Bank. A committee was appointed to report upon a proper form and manner of organization.

The Mining Share Market has been exceedingly inactive during the week just closed, exhibiting a limited range of transactions at the Board. A few leading ones show considerable improvement, while less favored shares, with few exceptions, maintained previous quotations. The more prominent companies are making very creditable exhibits, and since our last issue we note that the following companies have declared dividends:—Hale & Norcross, Savage, Yellow Jacket, and Imperial.

Savage has materially improved, opening at \$1,100, steadily advancing to \$1,157.50, and closing yesterday at \$1,150 bid. This Company declared a dividend of \$50 per foot on the 8th inst., which

amounts to \$40,000, leaving a surplus of \$30,000 to be carried forward, together with 2,400 tons of ore, free from all mining expenses, the average value of which is helieved to be about \$65,000. The south drift in the Curtis shaft is improving, and in the upper station the drift is now 180 feet from the shaft. During the week ending Sept. 8th, the greater part of which was spent in making repairs, 391 tons were sent to custom mills, and 557 tons of ore were amalgamated.

Hale and Norcross continues to be firmly held and is well maintained at previous quotations; \$1675 seller 30, was bid during the week, with no sales in the Board. Deducting the dividend of \$75 per foot, payable on the 15th inst., amounting in all to \$30,000, from the gross sum in the treasury, will leave a cash balance of \$80,000 on hand. The mine continues to look well, and no unfavorable indications are apparent.

Yellow Jacket has also met with some improvement, rising to \$780, then selling at \$775, advancing to \$815, receding to \$792.50, huyer 3, and closing yesterday at \$790. During the month of August the receipts of bullion produced from 127½ tons of 1st class, and 9,847 tons of 2d class ore, amounted to \$379,699.92, averaging about \$38 to the ton. The disbursements amounted to \$249,455.43, the following being the largest items of expenditure: crushing, \$148,851; assay, discount, and Federal tax, \$16,066; timbers, \$15,127; and supplies for mine, \$6,430. The Morgan Mill crushed 2,025½ tons of ore, yielding \$82,550; this gives an average of \$40.74 per ton. The amount of cash in bank is reported at \$389,126, from which deduct the dividend of \$50 per foot, payable on the 15th inst., (\$60,000,) and \$162,804 amount of indebtedness, and a balance of \$166,322 remains to the credit of the company.

Crown Point has been dull, and few sales were made during the week; receded from \$875 to \$860, then dropped to \$800, seller 10 and held at the close at \$825. During the week ending September, 8th, 661 tons of ore were extracted from the mine, or an average yield of about 100 tons per day. The "breast" of the south drift exhibits four feet of ore, and the general appearance of the mine is very favorable to an increased production for the present month.

Gould & Curry has been very dull and inactive, with a downward tendency, a few feet changing hands at \$700 to \$690, closing \$680 bid. There is nothing of importance to note at this time in regard to the mine. This company now have \$10,000 in the treasury, and there is some prospect of a dividend at an early day.

Ophir has been dealt in at an advance, opening at \$200, steadily improving to \$212.50, huyer 30 to \$207.50, seller 30, at which price 34 feet were sold, then sold at a still further advance, \$230, huyer 30, closing yesterday at \$220 h. 30.

Chollar-Potosi was quite active early in the week, advancing to \$142, receding to \$139, rallying to \$150, huyer 30, then selling at \$145 to \$142, and closing at \$145. In the Blue Wing station, running west, a body of ore and quartz, from 20 to 25 feet wide, was encountered, and an average assay of an assorted lot produced \$22 to the ton. During the week ending September 8th, 521 tons of ore were shipped to custom mills.

Imperial has met with few sales at \$98.50 to \$98 per share; closing at \$96. This company declared a dividend of \$6 per share, payable on the 15th inst. The Holmes' mine continues in good ore. About \$10,000 in bullion were realized from the first week's clean up of the present month at the Rock Point Mill.

Belcher was held at \$120 to \$125, huyer 30, early in the week, then receded to \$117.50 to \$116, and was quoted yesterday at \$120.

Empire Mill and Mining Company dropped to \$75, selling yesterday at \$77 per share. Alpha sold at \$50. Confidence advanced from \$59 to \$61, huyer 30, and closed yesterday at \$58 bid. Overman fluctuated from \$15½ to \$11, selling at the close at \$11. Bullion, \$26, huyer 30 to \$23. Some 1,000 shares of Sierra Nevada changed hands within a range of \$6.50, less assessment, to \$10.50, closing yesterday at \$9½ to \$8½.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$278,900.

10 shs Overman at 12½ per share.
 10 shs Sierra Nevada at 8½ per share.
 25 shs Sierra Nevada at 8½ per share.
 35 shs Sierra Nevada at 8½ per share.

AFTERNOON SESSION.

48 shs Ophir at 210 per foot.
 24 shs Ophir at 212½ per foot, h. 30.
 12 shs Ophir at 207½ per foot.
 60 shs Ophir at 207½ per foot, s. 30.
 4 shs Crown Point at 830 per foot.
 4 shs Crown Point at 830 per foot, s. 30.
 4 shs Crown Point at 800 per foot, s. 10.
 4 shs Belcher at 120 per foot, s. 30.
 1 sh Belcher at 117½ per foot.
 4 shs Belcher at 117 per share.
 2 shs Belcher at 116 per foot.
 2 shs Yellow Jacket at 775 per foot, s. 3.
 2 shs Yellow Jacket at 775 per ft, s. 15.
 1 sh Yellow Jacket at 777 per foot.
 1 sh Yellow Jacket at 777½ per foot.
 1 sh Yellow Jacket at 780 per ft b. 3.
 1 sh Yellow Jacket at 780 per foot.
 60 shs Daney at 3½ per foot.
 20 shs Daney at 3½ per share.
 5 shs Bullion at 25½ per share b. 30.
 6 shs Bullion at 25 per share.
 30 shs Bullion at 24½ per share.
 10 shs Bullion at 24 per share s. 3.
 10 shs Bullion, at 24 per share, s. 30.
 10 shs Overman at 11 per share.
 5 shs Sierra Nevada at 9 per share.
 100 shs Fireman's Fund Ins. at 119 per cent.
 \$ 6,000 U. S. 7-10, Aug. issue, at 75½¢.

Amount of sales..... \$60,340.50

Wednesday, September 12.

24 shs Ophir at 213½ per foot.
 12 shs Ophir at 213½ per foot c.
 24 shs Ophir at 212 per foot.
 1 sh Savage at 1120 per foot.
 1 sh Savage at 1130 per foot, s. 3.
 1 sh Yellow Jacket at 780 per foot, c.
 5 shs Overman at 11½ per share.
 5 shs Overman at 11 per share, s. 5.
 5 shs Overman at 11 per share, s. 30.
 10 shs Overman at 12 per foot, h. 30.
 5 shs Overman at 11½ per share, s. 10.
 10 shs Overman at 12 per foot, s. 3.
 5 shs Overman at 12 per share s. 30.
 5 shs Overman at 13 per sh, h. 30.

10 shs Overman at 13 per share.
 25 shs Overman at 13 per share, s. 30.
 5 shs Overman at 13 per share.
 5 shs Overman at 13 per share c.
 10 shs Overman at 12½ per share, s. 3.
 10 shs Overman at 13 per share, b. 10.
 10 shs Overman at 12½ per share.
 5 shs Overman, at 12½ per share, s. 30.
 2 shs Bullion at 23 per share, s. 3.
 15 shs Bullion at 24 per share.
 5 shs Bullion at 24½ per share.
 20 shs Sierra Nevada at 10 per share.
 \$1,000 U. S. 7-10 Bonds, June issue, at 77¢.
 \$15,000 U. S. 7-10 Bonds, June, 76½¢ c. s. 30.
 \$5,000 Legal Tender Notes at 72¢.
 \$20,000 Legal Tender Notes at 71½¢, s. 90.
 \$10,000 Legal Tender Notes at 72¢ b. 5.
 \$10,000 Legal Tender Notes at 71½¢, s. 60.

AFTERNOON SESSION.

24 shs Ophir at 215 per foot, s. 3.
 12 shs Ophir at 215 per sh, s. 30.
 1 sh Chollar-Potosi at 142½ per foot.
 1 sh Chollar-Potosi at 142 per foot.
 1 sh Savage at 1130 per foot, s. 3.
 2 shs Savage at 1140 per foot.
 1 sh Savage at 1145 per foot.
 8 shs Yellow Jacket at 790 per foot.
 4 shs Yellow Jacket at 790 per ft h. 3.
 1 sh Yellow Jacket at 780 per ft, b. 15.
 1 sh Yellow Jacket at 790 per ft, s. 3.
 1 sh Yellow Jacket at 795 per foot b. 3.
 5 shs Overman at 12½ per share.
 10 shs Overman at 12½ per share, s. 30.
 15 shs Confidence at 60 per share, b. 30.
 10 shs Confidence at 59 per share b. 30.
 55 shs Sierra Nevada at 10 per share.
 10 shs Sierra Nevada at 10½ per share, s. 3.
 100 shs Sierra Nevada at 10 per share, b. 30.
 60 shs Sierra Nevada at 9½ per share.
 20 shs Sierra Nevada at 9½ per share, s. 10.
 10 shs Sierra Nevada at 9½ per share.
 \$10,000 Legal Tender Notes at 72¢ b. 5.
 Amount of sales..... \$75,814.00

Thursday, September 13.

2 shs Yellow Jacket at 795 per foot.
 8 shs Yellow Jacket at 800 per foot h. 3.
 3 shs Yellow Jacket at 800 per foot.
 4 shs Yellow Jacket at 810 per foot b. 15.
 1 sh Yellow Jacket at 807½ per foot b. 15.
 1 sh Yellow Jacket at 800 per ft b. 4.

4 shs Yellow Jacket at 795 per foot, s. 30.
 1 sh Yellow Jacket at 799 per foot.
 2 shs Yellow Jacket at \$15 per foot.
 2 shs Yellow Jacket at 799 per foot, s. 3.
 2 shs Yellow Jacket at 799 per ft, s. 3.
 60 shs Ophir at 220 per foot.
 12 shs Ophir at 217½ per foot, b. 3.
 12 shs Ophir at 222½ per foot, s. 30.
 108 shs Ophir at 225 per foot.
 12 shs Ophir at 230 per foot, b. 30.
 12 shs Ophir at 227½ per foot, h. 30.
 1 sh Savage at 1157½ per foot.
 1 sh Savage at 1145 per foot, s. 30.
 1 sh Belcher at 116 per foot s. 3.
 7 shs Belcher at 120 per foot, h. 30.
 1 sh Belcher at 120 per foot s. 3.
 3 shs Empire M & M Co. at 80 per share.
 1 sh Empire M & M Co. at 92½ per sh.
 2 shs Empire Mill & M Co. at 85 per sh.
 20 shs Exchequer 2 per share.

40 shs Sierra Nevada at 9½ to 9¼ b. 30.
 20 shs Sierra Nevada at 9 per share.
 10 shs Sierra Nevada at 9 per share s. 3.
 2 shs Imperial at 98 per share.
 20 shs Overman at 13 per share.
 40 shs Overman at 13 per share ass. pd.
 15 shs Overman at 12½ per share c.

AFTERNOON SESSION.

12 shs Ophir at 222½ per foot.
 35 shs Ophir at 220 per foot s. 30.
 24 shs Ophir at 220 per foot.
 2 shs Belcher at 125 per foot, h. 30.
 1 sh Belcher at 122 per foot.
 1 sh Belcher at 121 per foot.
 1 sh Yellow Jacket at 795 per foot s. 3.
 1 sh Yellow Jacket at 792½ per foot s. 3.
 1 sh Yellow Jacket at 792½ per foot b. 3.
 4 shs Sierra Nevada at 9½ per sh b. 3.
 60 shs Sierra Nevada at 10 per sh b. 30.
 50 shs Sierra Nevada at 10 per share.
 10 shs Sierra Nevada at 9½ per sh s. 30.
 10 shs Sierra Nevada at 9½ per share.
 6 shs Overman at 12½ per share.
 3 shs Empire M & M Co. at 75 per sh.
 1 sh Empire M & M Co. at 76 per share.
 9 shs Empire M & M Co. at 77 per sh.
 5 shs Empire M & M Co. at 150 per share.
 5 shs Empire M & M Co. at 77½ per sh, s. 30.
 5 shs Empire M & M Co. at 75 per sh s. 30.
 20 shs Exchequer at 2 per share.

Amount of sales..... \$42,961.00

Friday, September 14.

1 sh Savage at 1160 per foot, b. 30.
 1 sh Savage at 1150 per foot.
 1 sh Savage at 1155 per foot.
 5 shs Yellow Jacket at 795 per foot.
 3 shs Yellow Jacket at 793 per ft.
 1 sh Yellow Jacket at 790 per foot, s. 3.
 1 sh Yellow Jacket at 795 per foot b. 3.
 1 sh Yellow Jacket at 790 per ft s. 30.
 1 shs Yellow Jacket at 792 per foot.
 24 shs Ophir at 227½ to 216 per foot.
 12 shs Ophir at 221 per foot, b. 30.
 1 sh Chollar-Potosi at 140 per foot.
 15 shs Imperial at 95 per share.
 20 shs Imperial at 96 per share.
 5 shs Imperial at 95½ per share, h. 3.
 1 sh Empire M & M Co. at 77 per share.
 1 sh Empire M & M Co. at 75 per share.
 5 shs Bullion at 23 per share.
 80 shs Overman at 10½ to 12 per share.
 75 shs Overman at 11 to 10½ per share s. 30.
 5 shs Overman at 10½ per share, s. 3.
 5 shs Overman at 11 per share, b. 3.
 5 shs Overman at 11 per share, h. 10.
 5 shs Overman at 10½ per share, s. 3.
 5 shs Overman at 11 per share, b. 10.
 5 shs Sierra Nevada at 9½ per share.
 50 shs Sierra Nevada at 8½ per share.

AFTERNOON SESSION.

1 sh Yellow Jacket at 790 per ft b. 10.
 2 shs Yellow Jacket at 800 per foot b. 10.
 4 shs Yellow Jacket at 790 per foot.
 4 shs Yellow Jacket at 792½ per foot.
 7 shs Yellow Jacket at 797 to 792½ per ft s. 3.
 1 shs Yellow Jacket at 795 per foot.
 1 sh Yellow Jacket at 800 per foot.
 24 shs Ophir at 220 per foot, h. 30.
 1 sh Empire M & M Co. at 77 per sh h. 3.
 10 shs Overman at 10 per share, b. 30.
 10 shs Overman at 9½ per share, b. 30.
 10 shs Overman at 10 per share.
 25 shs Overman at 9½ per share.
 25 shs Overman at 9½ per foot.
 25 shs Overman at 9½ per share.
 25 shs Overman at 9½ per share.
 10 shs Overman at 9½ per share b. 3.
 10 shs Sierra Nevada at 8 per share.
 Amount of sales..... \$43,150.50

NATIONAL MINERAL LAND ACT.

Having received an authentic copy of this law, we reproduce it in our columns. Our former publication, however, was substantially correct:

Section 1. Be it enacted, That the mineral lands of the public domain, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and occupation by all citizens of the United States, and those who have declared their intention to become citizens, subject to such regulations as may be prescribed by law, and subject also to the local customs or rules of miners in the several mining districts, so far as the same may be in conflict with the laws of the United States.

Sec. 2. And be it further enacted, That whenever any person or association of persons claim a vein or lode of quartz or other rock in place, bearing gold, silver, copper, or other mineral, having previously occupied and improved the same according to the local customs or rules of miners in the district where the same is situated, and having expended in actual labor and improvements thereon an amount of not less than \$1,000, and in regard to whose possession there is no controversy or opposing claim, it shall and may be lawful for said claimant or association of claimants to file in the local land office a diagram of the same, to be extended laterally or otherwise as to conform to the local laws, customs and rules of miners, and to enter such tract and receive a patent therefor, granting such mine, together with the right to follow such vein or lode, with its dips, angles and variations, to any depth, although it may enter the land adjoining, which land adjoining shall be subject to this condition.

Sec. 3. And be it further enacted, That upon the filing of the diagram as provided in the second section of this act, and posting the same in a conspicuous place on the claim, together with a notice of intention to apply for a patent, the Register of the Land Office shall publish a notice of the same in a newspaper published nearest to the location of said claim, and shall also post such notice in his office for the period of ninety days; and after the expiration of said period, if no adverse claim shall have been filed, it shall be the duty of the Surveyor General, upon application of the party to survey the premises and make a plat thereof, and upon the filing of the same, together with the number and description of the location, the value of the labor and improvements, and the character of the vein exposed, and upon the payment to the proper officer of five dollars per acre, together with the cost of such survey, plat and notice, and giving satisfactory evidence that said diagram and notice have been posted on the claim during said period of ninety days, the Register of the Land Office shall transmit to the General Land Office said plat, survey and description, and a patent shall issue for the same thereupon; but said plat, survey or description shall in no case cover more than one vein or lode, and no patent shall issue for more than one vein or lode, which shall be expressed in the patent issued.

Sec. 4. And be it further enacted, That when such location and entry of a mine shall be upon unsurveyed lands, it shall and may be lawful, after the extension thereto of the public surveys, to adjust the surveys to the limits of the premises according to the location and possession and plat aforesaid, and the Surveyor General may, in extending the surveys vary the same from a rectangular form to suit the circumstances of the country and the local laws, customs and rules of miners. Provided, That no location hereafter made shall exceed two hundred feet in length along the vein for each locator, with an additional claim for discovery to the discoverer of the lode, with a right to follow such vein to any depth, with all its dips, variations and angles, together with a reasonable quantity of surface for the convenient working of the same as fixed by local rules; and provided further, That no person may make more than one location on the same lode, and not more than three thousand feet shall be taken in any one claim by any association of persons.

Sec. 5. And be it further enacted, That as a further condition of sale, in the absence of necessary legislation by Congress, the local Legislature of any State or Territory may provide rules for the working of mines, including easements, drainage and other necessary regulations for the completion, development, and these conditions shall be fully expressed in the patent.

Sec. 6. And be it further enacted, That whenever any adverse claimants to any mine located and claimed as aforesaid, shall appear before the approval of the survey, as provided in the third section of this act, all proceedings shall be stayed until a final settlement and adjudication in the Court of competent jurisdiction, of the right of pre-emption to such claim, when a patent may issue, as in other cases.

Sec. 7. And be it further enacted, That the President of the United States be, and he is hereby authorized to establish additional land districts, and to appoint the necessary officers and clerks for such districts, wherever he may deem it necessary for the public convenience, in executing the provisions of this act.

Sec. 8. And be it further enacted, That the right of way for the construction of highways over public lands, not reserved for public uses, is hereby granted.

Sec. 9. And be it further enacted, That whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws and the decisions of Courts, and the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes aforesaid is hereby acknowledged and confirmed: Provided, however, That whenever, after the passage of this act, any person or persons shall, in the construction of any ditch or canal, injure or damage the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

Sec. 10. And be it further enacted, That whenever, prior to the passage of this act, upon the lands heretofore designated as mineral lands, which have been excluded from survey and sale, the Secretary of the Interior may, by citizens of the United States, or persons who have declared their intention to become citizens, which homesteads have been made, improved and used for agricultural purposes, and upon which there have been no valuable minerals of gold, silver, copper or other mineral discovered, and which are properly agricultural lands, the said settlers or owners of such homesteads shall be entitled to purchase the same at the price of \$1.25 per acre, and in quantity not to exceed one hundred and sixty acres; or said parties may avail themselves of the provisions of the act of Congress, approved May 20, 1862, entitled "An Act to secure homesteads to actual settlers on the public domain," and take amendatory thereof.

Sec. 11. And be it further enacted, That upon the survey and sale of lands aforesaid, the Secretary of the Interior may designate and set apart such portions of the said lands as are clearly agricultural lands, which lands shall thereafter be subject to pre-emption and sale as other public lands of the United States, and subject to all the laws and regulations applicable to the same.

Passed July, 1866.

STOCK CERTIFICATES,

STOCK TRANSFER JOURNALS,

STOCK LEDGERS,

ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the MINING AND SCIENTIFIC PRESS.

MINING SHAREHOLDERS' DIRECTORY,

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals].

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME AND LOCATION, ASSESSMENT	DAY DELINQUENT	OF SALE
Assurance M. Co. Cal. \$1.00	Sept 25	Oct 13
Arbitrage M. Co. Mex. \$1.00	Oct 13	Oct 25
Atchafalca P. Petrol. Co., Contra Costa Co. \$1.25	Sept 24	Oct 15
Belcher, Baldwin, and Abernethy Co. \$1.50	Aug 21	Sept 15
Belcher Co. \$4.50	Aug 21	Sept 15
Consolidated S. H. M. Co. \$1.00	Oct 1	Oct 21
Chilopota M. Co. \$1.00	Sept 25	Oct 15
Cosala S. M. Co. Mex. \$1.00	Sept 18	Oct 8
Cosala S. M. Co. Mex. \$1.00	Aug 30	Sept 15
Cordillera G. & S. M. Co. Mex. \$1.00	Sept 1	Sept 21
Central S. M. Co. Storey Co. Nev. \$5.00	Aug 23	Sept 12
Crown Point, dividend, \$90 ft.	Payable June 15	
Confidence S. M. Co., Storey Co. Nev., div. 10 p. c.	Pay July 9	
Cole S. M. Co., Storey Co. Nev. \$1.00	Sept 13	Sept 23
Cosala S. M. Co. Mex. \$1.00	Sept 18	Oct 8
Diana G. & S. M. Co. Nev. \$5.00	Oct 5	Nov 2
Diamond S. M. Co. Del Norte Co. \$1.00	Sept 15	Sept 25
Del Norte Consolidated Co. Del Norte Co. \$1.50	Aug 30	Sept 15
Daley H. & S. M. Co., Lyon Co. Nev. \$5.00	Sept 15	Sept 25
Excelsior M. Co., Storey Co. Nev. \$1.00	Sept 21	Oct 1
El Estero S. M. Co., Storey Co. Nev. \$1.00	Sept 21	Oct 1
Enterprise G. & S. M. Co. Meadow Lake, \$1.25	Sept 25	Oct 13
Gould & Curry, dividend \$30 ft.	Payable June 8	
Gureka, San Juan, dividend \$1.50 per sh.	Pay July 15	Sept 1
Geo. Washington G. & S. M. Co., Alp. Co. \$1.00	Sept 6	Sept 16
Geo. Washington G. & S. M. Co., Annual Meeting	Sept 15	
Gold Hill M. Co. \$1.00	Sept 25	Oct 15
Gould & Curry, dividend \$30 ft.	Payable June 8	
Hancom M. Co. Del Norte Co. \$500	Aug 31	Sept 15
Hale & Norcross, dividend	Payable Sept. 15	
I. X. L. G. & S. M. Co.	Annual Meeting Sept 13	
Imperial G. & S. M. Co. dividend \$6 sh.	Payable Sept 15	
Independent M. Co. Dividend	Payable Sept 1	
Independent G. & S. M. Co.	Annual Meeting Sept 25	
Jefferson G. & S. M. Co. Yuba Co. Div. \$10 sh.	Payable Aug 21	
Jeffrey Hill M. Co. Humboldt Co. 25c.	Aug 20	Sept 13
Kentucky C. M. Co. Calaveras Co. \$1.00	Sept 5	Sept 25
Lady Bell C. M. Co. Del Norte Co. \$1.00	Sept 11	Oct 2
Leland, Arizona, 50c.	Aug 22	Sept 10
Lady of the Lake, Arizona, 50c.	Aug 22	Sept 10
Lady Bryan, \$1.00	Aug 22	Sept 10
La Victoria C. M. Co. \$1.00	Oct 9	Oct 31
Mina Rica de las Flores M. & M. Co. Cal. \$1.00	Oct 2	Oct 21
Melones and Stanislaus G. & S. Co. \$2.00	Oct 6	Oct 25
Mammoth G. M. Co. Kern Co. \$500	Oct 4	Oct 20
Nuestra Sra de Guadalupe S. M. Co. \$1.00	Oct 1	Oct 31
Old Colony S. M. Co. Nevada, \$5.00	Sept 7	Oct 5
Overman S. M. Co. \$15.00	Sept 25	Oct 10
Patriotica and Dolores S. M. Co. \$1.25	Sept 22	Oct 8
Rattlesnake G. & S. M. Co. Yuba Co. \$1.00	Sept 12	Oct 3
Relucto M. Co. Del Norte Co. Mex. Annual Meeting	Sept 13	
Rose Linda M. & M. Co.	Special Meeting Sept 13	
San Marchal S. M. Co. Mex. \$1.00	Oct 19	Nov 21
Santa Cruz Petrol Oil Works Co. Annual Meeting	Oct 21	
Segregated Belcher M. Co. Nev. \$5.00	Sept 19	Oct 8
Simpson M. & M. Co. Alpine Co. 30c.	Sept 4	Sept 21
El Estero S. M. Co., Storey Co. Nev. \$500	Sept 21	Oct 1
Santiago M. Co., dividend	Payable Sept 15	
Sierra Nevada S. M. Co. Nev. \$4.00	Sept 5	Sept 25
Section M. Co.	Annual Meeting Sept 12	
Tecumseh G. & S. M. Co. Cal. 70c.	Sept 17	Oct 8
Tuloume Mountain G. & S. M. Co. \$1.00	July 22	Sept 11
El Estero S. M. Co., Storey Co. Nev. \$500	Sept 21	Oct 1
Triunfo G. & S. M. Co., L. C. \$1.00	Aug 27	Sept 8
Union Natte Oil Co., Humboldt Co., \$15.00	Sept 24	Oct 15
Yellow & Murphy G. & S. M. Co. \$1.00	Oct 11	Nov 1
White Jacket S. M. Co. div. \$50 sh.	Payable Sept 15	

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, September 14, 1866.	
	Bid. Asked.
United States 7 3/10ths	\$ 75 1/2 \$ 77 1/2
Gov. Legal Tender Notes	71 1/2 72
State Bonds, 7 1/2 cent.	100 1/2 101
San Francisco 10 p cent.	100 105
San Francisco Bonds, 1855, 6 p cent.	.. ..
San Francisco Gas	1:00 1:40
San Francisco Bonds, 1858, 6 p cent.	69 71
Sacramento City Bonds, 6 p cent.	19 21
Sacramento County Bonds, 6 p cent.	61 65
Marysville Bonds, 10 p cent.	72 82
Stockton Bonds, 10 p cent.	69 85
Yuba County Bonds, 10 p cent.	80 85
Butte County Bonds, 10 p cent.	70 80
California Navigation Co.	74 75
State Telegraph Stock	31 1/2 34 1/2
Sacramento Gas Co.	.. 75
Spring Valley Water Co.	63 64 1/2

RAILROADS.

Sacramento Valley Railroad	.. ..
Omnibus Railroad	54 60
Central Railroad Co.	.. 65
North Beach and Mission	45 46

MINING STOCKS.

Alpha	\$ 50 \$..
Baltimore American	.. 21
Bullion, G. H.	120 123
Belcher	.. 59
Confidence	222 1/2 225
Uphr.	680 690
Gould & Curry	70 80
Empire M. & M. Co.	1150 1160
Savage	139 145
Chollar Potest.	1675 ..
Hale & Norcross	.. 10
White & Murphy	790 795
Sierra Nevada	.. 11
Yellow Jacket	790 795
Overman	.. 96
Crown Point	.. 100
Imperial	.. 100

San Francisco Market Rates.

WHOLESALE PRICES.

FRIDAY, Sept. 14, 1866.	
Flour, extra, per bbl.	5 00 @ 5 50
Do Superfine	4 50 @ 4 75
Corn Meal, per 100 lb.	1 25 @ 1 50
Wheat, per 100 lb.	1 40 @ 1 50
Oats, per 100 lb.	85 @ 95
Berley, per 100 lb.	85 @ 95
Beans, per 100 lb.	3 50 @ 5 50
Potatoes, per 100 lb.	40 @ 60
Hay, per ton	7 00 @ 13 50
Live Oak Wood, per cord	8 00 @ 10 00
Grain, on foot, per lb.	8 @ 8
Beef, extra, dressed, per lb.	10 @ 12 1/2
Sheep, on foot, per lb.	4 00 @ 5 00
Hogs, on foot, per lb.	8 @ 9
Hogs, dressed, per lb.	10 1/2 @ 13

GROCERIES, ETC.

Sugar, crushed, per lb.	12 1/2 @ 13
Do China	10 @ 11
Coffee, Costa Rica, per lb.	21 @ 25
Do Rio	23 @ 24 1/2
Tea, Japan, per lb.	80 @ 90
Hawaiian Rice, per lb.	9 @ 10
China do.	6 1/2 @ 7 1/2
Coal Oil, per gal.	68 @ 72
Candles, per lb.	15 @ 22

Ranch Butter, per lb.	35 @ 60
Lard, do	30 @ 37 1/2
Cheese, California, per lb.	10 @ 17
Eggs, per doz.	19 @ 20
Hard Bacon, per lb.	20 @ 21
Shoulders	12 1/2 @ 15

Retail Prices.

Butter, California fresh, per lb.	45 @ 60
do pickled, per lb.	35 @ 50
do Oregon, per lb.	35 @ 50
do New York, per lb.	40 @ 50
Cheese, per lb.	15 @ 25
Honey, per lb.	30 @ 40
Eggs, per doz.	50 @ 60
Lard, per lb.	22 1/2 @ 25
Beans and Bacon, per lb.	22 1/2 @ 25
Cranberries, per gal.	75 @ 100
Potatoes, old, per lb.	1 @ 1
do New, per lb.	3 @ 6
Tomatoes, per lb.	1 @ 1
Apples, per lb.	6 @ 6
Oranges, No. 1, per lb.	3 @ 5
Pears, table, per lb.	8 @ 10
Plums, dried, per lb.	20 @ 22
Peaches, dried, per lb.	15 @ 20
Oranges, per doz.	50 @ 60
Lemons, per doz.	75 @ 80
Soap-Pale & C. O.	8 @ 10
Castile	— @ 15

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

Professional Cards.

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Drawings of Models made for parties applying for patents at Washington or London.
mar23-4t

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
COURT COMMISSIONER, appointed by the Fourth District Court, COMMISSIONER OF DEEDS for Nevada and Massachusetts.

Court Block, San Francisco.
Entrances opposite City Hall, Merchant street, and 636 14th st.
Clay street.

DR. H. AUSTIN,
DENTIST,
No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER 'SAN FRANCISCO BATHS']
SAN FRANCISCO. 20v10-47

DR. D. R. BECKFORD,
OCULIST,
Office of Dr. Beckford's "Golden Eye Water,"
15v12-3m NO. 719 CLAY STREET.

AUGUST KUNAST,
Stock Broker,
Member of the
San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
Office, No. 540 Washington Street, San Francisco. 2v10

WILLIAM P. BLAKE,
MINING ENGINEER,
Will make Surveys and Examinations of Mines, or give advice regarding their working, the erection of Machinery, etc.
Office at Union Iron Works, corner of First and Mission streets, or Lock Box 2,077 Post Office, San Francisco. 11v23-47

GEORGE H. BAKER,
Lithographer & Engraver,
No. 522 Montgomery St., San Francisco.
MINING STOCK CERTIFICATES LITHOGRAPHED IN MOST ARTISTIC STYLE. CALL AND EXAMINE SPECIMENS.
10v3-47

SHERMAN DAY,
Mining Engineer,
No. 57 Montgomery Block, San Francisco.
Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines.
2v1

Our Patent Agency.
The PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been organized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of Letters Patent from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

Postage.—The postage on the MINING AND SCIENTIFIC PRESS to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and country. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked with French and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & Co., Patent Agents.
San Francisco, May 1st, 1866.

Rheumatism !!

ANOTHER WITNESS!

SALMON FALLS, June 17, 1866.
H. BOWMAN—DEAR SIR:—HAVING HAD A FAIR test of the virtue of RICHARDS' REMEDY FOR RHEUMATISM, I take great pleasure in stating that its effects with me have been even better than its recommendations claim. In 1863 I first heard of the Medicine. I had then been for three years severely afflicted with Rheumatism, and having tried everything I could hear of, without any permanent benefit, I concluded to try this also. On taking the medicine, in three days I experienced great relief, and in one week was entirely free from pain, and had completely recovered the use of my limbs, which had become almost powerless, so much so that I could not dress myself without assistance. Since that time I have been free from Rheumatism. I have recommended RICHARDS' REMEDY to numerous friends, and in every case it has proved successful. I therefore take great pleasure in recommending it to all who are afflicted with Rheumatism, and especially to all mercurial chronic Rheumatism cases.

Yours respectfully,
H. BOWMAN,
President of the Gen. Grant Mining Company.

RICHARDS' REMEDY is for sale by
H. BOWMAN,
Druggist, Sacramento, 11v13

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Giving full particulars of the College, can be had FREE, by calling at the College, or addressing

3v13 President Business College, San Francisco.

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Monday, August 20th, 1866.

TERMS—Tuition in the Classical and Scientific Department; Boarding and Lodging; Washing and Mending of articles washed; School Stationery; Medical Attendance and Medicine; Fuel, light, baths, etc., per session of ten months. \$350

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

3v11-12 REV. A. MARASCHI, S. J., President.

SAN JOSE INSTITUTE

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Santa Clara County, California.

THE NINTH SESSION WILL COMMENCE ON THURSDAY, July 26th, 1866

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Ample accommodations for boarders in the Seminary. Ornaments, Music, Ancient and Modern Languages taught.

Special arrangements have been made for boys between the ages of ten and eighteen.

For further particulars or Circular, address
FREDMAN GATES, Principal.

Mining Summary.

CALIFORNIA.

Alpine County—

From the *Miner* of September 8th, we clip the following: Two samples of rock taken from two different claims in Monitor district, just below town, were assayed a few days since. We give the certificate in full, as follows:

"Assayed for J. P. Ray two samples of ore. No. 1 contains, per ton of 2,000 pounds, silver, 152.09 ounces—value, \$199.02; gold, 1.215 ounces—value, \$25.11; total value, \$224.13.

No. 2 contains, per ton of 2,000 lbs., silver, 709.56 ounces—value, \$922.42; gold, 1.215—value, \$75.33; total, \$997.76. . . . The American company are down over forty feet with their new air shaft, and expect to intersect the drift within the coming week.

The Silver Mountain *Bulletin* of same date has these items: We have an intimation from a reliable source that the Northwestern California company, who have leased Buckeye No. 1 for six years, will commence operations by the 1st day of October. . . . The workmen in the George Washington mine, in straightening the tunnel so as to intersect the cross-cut made to strike the east wall, struck the ledge on Wednesday north of the former workings. The ores from which appear richer than those taken out of late. . . . A contract was let by Lady Elgin company, last week, to Messrs. Mylett & Carmichael, to run seventy-five feet, or to the ledge, and three feet into the same for \$6.50 per foot. . . . On the Coast Range lode, Philbrick & Co. have two shifts running a tunnel, which is now in forty-four feet, and about sixty feet beneath the croppings. . . . Mr. Guido Kinstel arrived at the Washington mill on Wednesday evening, and will assume the control of the works.

Amador County—

The *Ledger* of September 8th says: We have been shown a couple of specimens of very rich silver ore, so rich that the heat of an ordinary forge quickly covers it with globules of silver. The luster says he obtained it near the Mokelumne river, on the Pine Grove range, but refuses to disclose the exact locality.

Calaveras County—

The *Chronicle* of September 8th says: Several new quartz leads have been discovered in this vicinity within the past two weeks. Near Middle Bar, on the Mokelumne river, George Smith recently found a large, well-defined ledge, the top rock of which prospects handsomely. A company has been organized and work commenced. From Railroad Flat the news continues cheering. Rock from all the claims has been taken to Harris' mill and crushed, and in every instance the result has been most gratifying.

El Dorado County—

A new quartz mill is being erected at Wall's diggings, by William Milgate, of 10-horse power, and will run five stamps—the stamps weighing 280 pounds each, independent of the shaft.

Kern County—

The *Visalia Delta* of September 5th has a letter from Poe's Camp, Kio Bravo district, Kern county, dated August 27th, from which we extract the following: The General Washington lode runs over a hill near this mining camp, and two shafts six feet wide have been sunk. The lode is over seven feet wide. It stands nearly perpendicular, and promises to be among the best, if not the very best mine in this county.

We have also found quicksilver or cinnabar mines. Two of them show in the out-croppings the largest amount of cinnabar of any mines of that class in the State. They crop out on the summit of a high ridge, of land, and are easy to approach and work. The largest cinnabar mine is three miles from here.

Several of the lodes are within ten miles of Kern River, where there are good waterfalls. In fact, taking into consideration the climate, and the easy access to the several gold-bearing lodes, it is certainly the most pleasant and perhaps the richest mining camp in this portion of California.

The Rio Bravo Mining district adjoins Long Tom and Clear Creek.

A new district has been organized at Hot Spring Bar, called the Dablonega.

Mariposa County—

The *Gazette* of 8th instant says: The Bear Valley mines are paying better than ever before. The rock at the Pine Tree and Josephine veins average from thirteen to sixteen dollars per ton, and the veins are extensive enough to warrant their holding out as long as any one will want to work them.

From the *Alta* of the 12th we clip the following: To make assurance "doubly sure," the managers of the Mariposa Estate continue to make experiments with the new process of working gold quartz rock. Twenty-two tons of ordinary rock from the Pine Tree mine were treated last week, and the result proved much larger than the most sanguine anticipated,

being \$918.48, or a fraction of \$42 per ton. If the experiments, which are to be continued, increase the yield of the precious metals at this ratio, we will see a revival in the gold quartz mining interests of the State.

Nevada County—

The *Gazette* has these items: The owners of the Italian ledge recently commenced suit against Fleming and others, to establish title to the mine, which it seems both parties claim and which both parties have been working. The Italian company have sunk a shaft to a depth of about ninety feet, from which they have been taking out rock. Fleming & Co., also, have run a tunnel into the shaft just mentioned, and by a free use of sulphur and other compounds—such as it is supposed Satan uses in his dominions—have smoked out the Italian party for the time being. An "underground" quarrel is likely to result from it, as we learn that the Italian company have covered over the top of their shaft, so as to drive the sulphurous odors out through the tunnel.

We had a conversation yesterday with J. A. Fuller, just down from Eureka township, who informs us that times are unusually lively in that locality, and the quartz mining prospects are remarkably encouraging. The Lambert mill, near the town of Eureka, is about completed, and will have five stamps running next week. The Black mill, erected on the Young ledge, is rapidly approaching completion, and will be running in two or three weeks. The owners have out a considerable quantity of rock ready for crushing. Keller & Co., owners of the Eclipse, have struck the ledge in their tunnel. The tunnel has been run about two hundred feet, and the ledge is of large size, and the rock looks well. The Kentucky company, at Snow Point, are about to commence operations in sinking for the Blue lead. They have a large engine on the ground, brought from Silver Mountain, and the machinery will be put up immediately. The town of Eureka is now quite lively. Moore's Flat is also improving.

The Grass Valley *National*, of Sept. 6th, says of the Cape of Good Hope: This mine is situated in Rhode Island ravine, about a mile from town. It was located last June, and has been worked ever since by the present owners. They have sent an agent to San Francisco, to negotiate the sale of one half the mine.

The same paper has an editorial on "the future of Grass Valley," from which we quote: Our mines, many of them, unlike the Washoe mines, are worked by the original owners, who, instead of spending their money away, retain at least a portion of it here in improving and beautifying the town, which they intend as their future homes. On the hillsides, surrounding the town, houses are going up in every direction, while, throughout the business portion of the town large and substantial brick buildings are being erected on every street. All this is the legitimate result of the richness of our mines and the industry of our people, and not the effect of feverish excitement.

EXCELSIOR.—We clip the following items from the *Meadow Lake Sun*, of Sept. 6th: Four and one half tons of rock from the Enterprise ledge are now are about to be worked by the chloridizing process of Messrs. Chapellet & Ditken, at their Metallurgical Works. . . . The Colima Company, Colima ledge, are working about one hundred yards north of the Knickerbocker. They have sunk about twelve feet on the ledge, which seems to widen as they go down. The lode prospects very rich in gold and sulphurets. . . . There is a constant demand here for experienced and industrious miners.

The *Gazette* says: A practical miner, who spent most of the summer at Meadow Lake, informs us that the most serious drawback to the development of the mines of that district is the want of roads for hauling quartz from the ledges to the mills. The country is very rough and broken.

Placer County—

The *Herald* of Sept. 8th, has this item: The prospectors of the Mallet claim commenced on Monday last to sink deeper on the ledge. The "indications" are better and better. The vein continues to bear a great deal of sulphurets. Some of the rock was recently worked by mill process and yielded \$76 to the ton.

The *Folsom Telegraph* of same date, says: The Golden Rule company, whose quartz claim is situated near Horseshoe Bar, Placer county, have a fine mill completed, and have about one hundred tons of excellent rock ready for crushing. The company are elated with their prospects. We are informed that rich quartz discoveries are continually being made in the lower portion of Placer county within eight or ten miles of Folsom.

Specimens of ore taken from the Maine ledge, owned by Davenport & Co., near the Bloomer Cut, between Newcastle and Auburn, were assayed recently by Waters, of Sacramento, and yielded at the rate of \$2,285.06 per ton in gold and \$138.48 per ton in silver—total per ton, \$2,423.54. This ledge is located on the line of the Central Pacific Railroad.

The Dutch Flat *Enquirer* has the following: Bradley and Gardner are making preparations for conveying water from the line of their ditch to Thompson's and Gray's Hills, in sufficient quantity to accommodate the miners on both those hills. To accomplish this object they have ordered four thousand feet of iron pipe thirty inches in diameter. The enterprise will involve an expenditure of some \$28,000.

Plumas County—

We clip the following from the *National* of the 8th inst.: The work of prospecting the Union ledge, lately struck by Messrs. Bidwell & Co., was a heavy undertaking. The shaft was sunk through bed rock a distance of 225 feet, at a cost of \$10,000. The company now expects to receive ample returns for this expenditure. . . . Messrs. Rogers, Abbott & Co., comprising the Norway Company, are having fair success in opening their ledge, on North Canyon Gulch near Greenville. They have sunk a shaft about 40 feet and have found excellent pay. Last week the rock which they crushed paid \$20 per ton. They are now taking out rock which will pay from \$25 to \$30 per ton. . . . The Caledonia ledge, at Round Valley, owned by Messrs. Bidwell & Co., is being prospected with success, paying last week \$18 per ton.

Sacramento County—

The *Folsom Telegraph* of 8th inst., says: A new quartz mill is being erected at Wall's Diggings, in this county, by William Milgate, of five horse power, and will run five stamps, the stamps weighing two hundred and eighty pounds each, independent of the shaft. Mr. Milgate has been running two arastras on his ledge for a year past.

Shasta County—

The *Courier* of the 8th inst. has these items: Mr. George McKean has sent us a sack full of rock from his ledge on Flat Creek, which not only looks well, but is pronounced very rich by competent quartz men. McKean says there is a number of ledges on the creek which prospect equally as rich as the one he has located. . . . John S. Hale, Superintendent of the Kellenger mine, reports no new indications on striking the ledge. Rock continues very hard and cannot be got out except by blasting. The tunnel is in a distance of 1,030 feet. . . . The Mammoth company have just completed a run of thirty-three tons of rock from the Harrison ledge.

Sierra County—

The following items are from the *Mountain Messenger* of the 8th inst.: The rock being taken from the Sailor claim is richer than ever. . . . The Keystone is improving in depth, with strong vein and rich ores. . . . The Oro claim is sinking a shaft through average thirty-one dollar rock. . . . The recent discovery of a new belt of cupriferous ore about four miles east of the Buttes, bids fair to turn out very valuable. . . . Rich discoveries have been made on the North Fork near Rattlesnake. Some ore brought to town shows very rich. . . . The Sierra Buttes mine is working a 22 feet breast from wall to wall. It resembles more a huge quarry than working a vein of quartz. The ores are rich. . . . The Spanish claims, opposite Clements' saw mill, on the South Fork, are being reopened. The vein is about eight feet thick, with a good class of ores in sight. . . . The new process adopted by Gray & Co., at Gold Valley, is proving a decided success. Ores that heretofore would not pay for working, are now paying largely. . . . The Good Hope was running a low adit which will tap the vein down 200 feet below the croppings, affording heavy backs. They are crushing in the Gold Bluff Mill, ore paying about \$35 per ton.

The Chappai Quartz Claim, situated about one mile northerly from Downievale, near the Monte Cristo trail, has been heretofore worked as a placer claim, being in a talcose formation, which is much decomposed near the surface. Water, with the help of the pick, has heretofore been quite sufficient to free enough of the gold to make it a very remunerative property to the owners. Recent developments have proved its continuity in depth, with a very rich class of auriferous ores. The ores now being quarried are so rich that the proprietors are packing them to put away for sale. . . . George Knowles' claim, in the river, at the toll-bridge, has yielded this season about \$10,000, working ten men. This is at the rate of about \$166 per day to the hand.

Letter to same from Chip's Flat says: Sayles & Stockwell took out of their claim last week the snug little sum of \$1,200. . . . The Branch Company of Centerville, have consolidated with the Mammoth Tunnel company, at this place, whose tunnel, it is expected will be low enough to drain the back ground in the center of the ridge, under the road leading from this place to Minnesota, and the enterprise will, no doubt, be a paying adventure. . . . The Morning Star company are running the main tunnel to their back ground with every indication of success. . . . The Yankee are having their regular dividends every week. . . . On the Minnesota side the Keystone and Wisconsin are paying well.

Siskiyou County—

The *Union* of Sept. 8th, says: The mill of Dash, Hawkins, & Co., cleaned up, after a six weeks' run, and obtained \$3,000.

The *Journal* has the following: "The ledges on Humbug creek are creating some excitement lately, and promise to be good paying institutions. The Siskiyou ledge being now principally owned by San Francisco capitalists, it is the intention to erect a quartz mill. The Shasta Butte Company are working on another part of the same lead, and have lately taken out very rich rock, some of which will be shipped to San Francisco for testing.

Tulare County—

The *Visalia Delta* of Sept. 5th, says: We are burning a beautiful article of coal oil from the Buena Vista Company's Works, near Buena Vista Lake, in this Valley. The Company is prepared to manufacture 3,000 gallons per month of this, besides a large amount of lubricating oil. They report the supply to be apparently, inexhaustible. They think they can lay down their oil here at one dollar per gallon, and expect to supply all the country this side the Coast Range. The oil is as clear as crystal, slightly tinged with an amber shade, (though much of it, we are told, is perfectly free from color,) limpid as water, and burns with brilliancy.

Tulame County—

The *Columbia Citizen* of the 8th inst., gives the following items: The Ino realized ten ounces from last week's work. This claim is one of the vacant lots in our city, for which the proprietor was recently offered the sum of two hundred dollars, but preferred to prospect it. . . . The owners of the Daly claim, located in Main Gulch, Columbia, cleaned up, last week, upwards of thirty-one ounces of gold.

Yuba County—

The *Appeal* of Sept. 6th, says: Our Brown's Valley correspondent informs us that the steam engine in the Donnebroke mill has broken down, and the mill at a stand still. Also, that the Rattlesnake has struck richer rock than was ever taken out in the town, and the Pennsylvania paying better than ever.

NEVADA.

Washoe—

The *Gold Hill News* of Sept. 6th, says: A change is about to take place at American Flat. A portion of the Mont Blanc mine has been sold to a New York company who are now prosecuting work with three "shifts" of hands to find what has not yet been done—the extension of the rich Comstock ledge. There is a tunnel 400 feet in length. The ledge is supposed to be eighteen feet in width where the tunnel cuts it. A shaft is being sunk on the ledge, and is now fifteen feet deep. The ore as it is taken out has good sulphurets indications, and is growing more solid and promising as the sinking of the shaft progresses. Assays show from \$5 to \$40 per ton.

The *Enterprise* says that the Savage mine yields at the rate of over a thousand tons ore per week, worth nearly \$50 per ton.

Reese River—

The *Reveille* has the following items: Important discoveries have been made near the southern boundary of Northumberland district. Two large ledges, the Green Mountain and the Indian Queen, have been opened. The former is thirty feet, and the latter fifteen feet thick. . . . We have been shown a certificate of assay of ore from the Keystone ledge, in Hot Creek. It yielded at the rate of \$21,918.94 to the ton. Of course it is not pretended that this is a fair sample of the ore, but as a very rich specimen of it. As large as it is, it has been excelled in Lander district. In 1864, an assay of ore from the Warner & Wells, which gave \$22,518.98 to the ton. . . . Mr. J. Bowstead of Sacramento, will shortly take charge of the affairs of the Manhattan company. They own three ledges, the Oregon, North Star, and Southern Light. It is believed the change will be for the benefit of the district. . . . Mr. Stamford, of the old Colony, has been appointed superintendent of the Harvard company, Yankee Blade. He is now working the Josephine ledge. Seven and a quarter tons of ore from the Childs and Caulfield location on the Transylvania ledge, in the Philadelphia district, have just been reduced at the Keystone mill, with a yield of bullion valued at \$1,170.82—over \$161 per ton. . . . Bullion shipped in August from Austin, was \$71,000. . . . Colonel D. E. Buel arrived in town yesterday, Sept. 2d, from the Philadelphia district, with several thousand ounces of crude bullion, being the first lot reduced at mill in that district. It is less than ninety days since he first visited the section for the purpose of examining the property which he now owns. Within that period he dismantled and removed a 10-stamp mill from Bar creek to the Philadelphia district, more than one hundred miles distant, rebuilt it there, and produced bullion before the close of August. . . . The mill of the New England and Nevada company at Kingston, will be completed the first of October. It will be supplied with twenty stamps and four furnaces.

The same has an editorial on "Austin as a Railroad Center," predicting its future import-

ance, and giving the probable routes to be followed by the railways, that must in time be built, of which the natural center is at Austin. The passes, and natural grades, and perfect plains, are said to be singularly favorable for cheaply connecting, by railroad, most of the richest districts with each other, and with San Francisco.

The Nye County News of Sept. 1st, has these items: In Mammoth district, everything is lively. The Mount Vernon company are still pushing work on their mines, and the Hamilton company, recently organized in Philadelphia, are soon expected to commence operations. At the Knickerbocker mill, we saw a fine specimen of ore from the Great Eastern claim, at Grantsville. It contained a leaf of native silver, the most beautiful we ever saw. The Great Eastern is looking well, and a large force is constantly getting out ore. Messrs. Boon and Hawk have gone east to sell the Knickerbocker and Erie series of ledges in Mammoth district, or to raise a company to develop them. They are not "wild cat."

Letter to some from Austin, says: Silver Glance ledge, Hot Creek, assayed \$1,689 per ton. From what I can learn here of the recent discoveries in Silver Bend, Hot Creek and Reveille districts, and from experienced prospectors now exploring that section of country, I will venture to predict that five years hence Nye county will stand ahead in population and mineral wealth of any other county in this State.

Emeralds—

The Union of September 8th has this item: A very rich gold-bearing quartz ledge is reported to have been discovered recently on Dog Town Creek, near Monoville. It has created quite a stir among prospectors.

Humboldt—

The Register of 1st instant has the following: Work has been resumed on some of the old claims in this district, which have been wholly or partially abandoned during the last two years, and, in some instances, the results obtained by a few weeks' labor judiciously expended, are beyond the most sanguine expectations of the prospector.

We will give the Arizona as an example. Since '63 barely enough has been done to hold it in accordance with our district laws. Three weeks ago a few of the owners commenced a search for the ledge. A fair-sized vein of mineral has been struck, from which enough ore has been extracted to cover all expenses and leave a margin for future operations.

Same paper of 8th has a letter from Humboldt City, from which we gather these items: The tunnel in the Starlight, of the Atlantic and Pacific company, is in 363 feet. Five men are at work day and night. In the Calaveras a tunnel 346 feet in length has been run, and a shaft has been sunk to the depth of forty feet. The mineral in this large vein is of a peculiar character, crumbling between the fingers like wet powder, and of a similar hue. The ore is exceedingly rich, assaying as high as \$5,000 per ton, but not as yet found in quantity sufficient to justify the erection of reduction works.

Same paper has an editorial headed "Effect of Incorporating in San Francisco." It cites the Peru ledge, in Buena Vista district, to show how things were done in 1863. The company was incorporated, an assessment levied, an "artist" sent on as superintendent, and a shaft of fifty feet sunk. At that depth water was struck, and not a cent has been expended on the claim since, although they abandoned a 5-foot ledge of ore assaying from \$100 to \$1,100 per ton.

Pahranaagat—

A letter from Logan Springs to the Salt Lake Volante says: The climate is delightful, and the mines can be worked the year round—very little snow or cold weather to impede operations. It is of as much importance to the mining interests here as it is to Utah and Nevada, that the Colorado should prove navigable to Callville, if no further. Dr. Conger and Mr. Raymond evidently believe it to be so, for they purchased at that city mills and machinery, with stocks of miners' goods, and contracted with responsible shippers for the delivery of the same at Callville about the 1st of September. Several lodes in the district are excavated to the depth of twenty or more feet, and display well defined walls with broad vertical veins of ore that assay from one hundred to five thousand dollars per ton. Machinery for operating these mines can be very readily obtained, having to be transported by land only about one hundred miles, and that over a good road directly up the Pahranaagat Lake Valley.

ARIZONA.

The Miner of August 8th says: It is reported that the Groom and E. M. Smith interest on the Bully Bueno mine—nine hundred feet—have been sold to the Philadelphia company for ten dollars per foot, and that the mill sent out by said company will be put upon it. The Governor and Adjutant-General recently made a trip to Big Boy district. They visited the Golden Wreath, Ticonderoga, Green

Tree, Galena, and Big Bug lodes, and then proceeded to the Borer Mill. Though not running at the moment, it was started for their inspection and worked admirably. At the Woolsey water mill three of the five stamps were running.

The Alta of 10th instant has a letter from Hardyville, dated August 19th. The writer says: We have at length two real quartz mills landed at this place, one of which, that of the Moss association, will be crushing within ninety days. It is a first-class 10-stamp mill, with pans and gold and silver-saving appliances all complete. The other mill is one of the "Thunderbolt" pattern, and is claimed to be able to crush twenty-five tons of rock in twenty-four hours. It was shipped here from New York city by Mr. A. Wade, for the San Francisco district. Mr. C. L. Strong, superintendent of the Moss mine, has the walls of the building that is to contain their mill nearly complete.

It is known that the Moss lode has rich croppings, and a shaft of eighty feet proves rich ore at that depth. The Dayton, close by, can be made to yield some pay rock. The Michigan can furnish hundreds of tons of good ore at short notice, say of \$40 to \$100 rock. The Parsons yields good ore. The Queen of the Pacific company have a tunnel in 160 feet, and have found very rich rock. The Invincible company can always produce paying ores for crushing.

Work still progresses, new companies are taking hold, and faith in the richness and permanency of our mines wax stronger. Colonel Aiken, assayer for the Pennsylvania company, that made a disastrous attempt at mining here two years ago, has just returned for the purpose of operating in the Sacramento district. The Colonel assayed enough ores and observed enough of the country while here to satisfy him that there are rich and good mines here, and notwithstanding the failure made by his company, through inexperience and bad management, his faith has brought him back again, prepared to profit by the knowledge he obtained of the mines here. Mr. C. A. Luke, an old prospector, has also just returned from the East with an outfit for opening some of the ledges of the Sacramento district. Several companies have commenced work in that district.

COLORADO.

From the Denver News of August 29th we clip the following: We have been shown some extremely rich assays from some of the silver lodes belonging to the Ute Mining company, in Pacific Lake district, near Breckinridge. One assay from lode No. 1, from a tunnel twenty feet from the surface, assays \$23,421.91 per ton of 2,000 pounds. Another from the blossom rock of lode No. 3 east, in the same district, assays \$4,708.20. The assays were made by Mr. Schirmer of this city. The company is getting out a large amount of ore, and we believe propose erecting reducing works at an early day. The Argentine company are working the Paymaster lode. The works consist of an Atwater oxidizing machine, the only one in the country, and a Scotch hearth. They are on a small scale, and are as yet regarded as an experiment.

Ward mining district is unquestionably one of the richest in the Territory. The Ni-Wott mill has fifty stamps. Twenty-five of these were started on the 16th of last month, running on surface and refuse ores, from which the best qualities had been selected before, yet the result of fourteen days' run was a yield of one hundred and twenty-two ounces of gold coin value sixteen dollars per ounce, equaling \$1,952 in gold. The second run was only four and a half days, from a better class of ores than before used, still not the best average of the mine. In this run seven and a half cords were worked, giving a yield of twenty ounces and six pennyweights to the cord, being an average per day of gold, at coin value, of \$542.20. This, when the whole fifty stamps shall start, will be just doubled, making \$1,084.40 in coin, and at present rates \$1,500 currency value per day. The cost of mining and milling per day will be \$170, leaving \$1,320 net profit to the company for each day's run. The mill is built on the Columbian lode, which has a crevice of ten feet between the wall rocks. All of this material is worked, the poorest yielding about \$70 per cord under stamps, and the best selected ores, which are abundant in the mine, not less than \$500 per cord.

IDAHO.

The Avalanche of September 1st has these items: In the Whisky Gulch ledge the main shaft is down seventy-five feet, at the bottom of which a tunnel is run north thirty-five feet. The ledge in this tunnel will average four feet. Next to the east casing there is fifteen inches of rich quartz. On the west side there is another equally rich but smaller stratum. It promises to prove a first-class ledge. Moore & Fogus have failed. The extent of their liabilities is probably between two and three hundred thousand dollars. On the 14th day of August the property was transferred to the Minear Mining and Milling company, for the

sum of \$156,000. We are informed that C. E. Tilton, of New York, held a mortgage on the mill, adjacent buildings and grounds upon which they are situated for \$36,000. The editor says: "The failure was not in any sense the result of the unproductiveness of the company's mines, and of this fact we desire the outside public to be as well assured as we of Owyhee. Mr. Lobeneau, Mining Engineer and Assayer, reports that the miners now working at the Pueblo copper mines have just discovered a silver ledge five feet wide, which is pronounced a sulphate of silver—containing eighty-five per cent. of pure silver. The Pueblo mines are located on the Chico stage route, and about 150 miles from Silver City. It is on the same range of the Black Rock, Pine Forest district, and where the ores have been successfully worked by the mills of Virginia City and Washoe."

MONTANA.

The Post of August 18th gives the following items: L. H. Lusk, in Alta Gulch, has in his employ about twenty men, and is taking out, on an average, three hundred dollars per day. Messrs. Hedges & Co., who own the claim below Mr. Lusk's, took out, on last Thursday, \$229, being the first clean-up they have made since opening their ground. In this claim, from one pan of dirt, four dollars and fifty-seven cents were obtained. Brown's Gulch is paying from fifteen to twenty dollars per day to the hand. Only a few men are, as yet, working. In Summit Quartz District the Nelson ledge exhibits, at the depth of seventy feet, a crevice seven feet in width, of rich paying rock. The Yankee Blade has a shaft some fifty feet in depth. The Kearsarge is well developed, having been tapped at the depth of one hundred and twenty feet. The Keystone prospects finely at the depth of sixty feet, and shows a well defined crevice. There are four quartz mills in the vicinity of the town, nearly all of which are in running order. The Seneca Falls mill is a very large frame structure, and is said to have fine machinery. The Scrauton mill is a Dodge crusher, with all the latest improved amalgamating apparatus. The Excelsior is a very large mill of stone, and has twenty stamps. The Idaho was the first mill brought into Madison county, but has never been successful. Another mill is in process of erection in this district. The company at work on Discovery claim are taking out about twenty dollars per day to the hand. Some little excitement was created last week at the Mountain Spring ranch, kept by S. B. Goodrich, by the finding of some rock in the hills adjoining the ranch, which was nearly full of gold.

The Bannack letter to same says: The Butterfield company, on No. 6 Dacotah, has a shaft over 300 feet deep, and a drift thirty feet long. Free gold is visible in the rock. * * Every body is at work. The New York mill, which has lain idle for a year and a half, has been repaired and started. Messrs. Wright, McMeen & Co. have recently made a new discovery at Bald Mountain, which, without any doubt, is the best gold lode of that district. The crevice is three and a half feet in width, and is a well defined vein of quartz.

New diggings have been discovered near the head of Bitter Root river. The Mullan road is now traveled by wagons.

Same paper of 25th August has these items: On Monday last, Messrs. Boyd & Co., who own claims near Nevada City, in Alder Gulch, made a run of 24 hours, and cleaned up \$1,500, being a little more than an average run for the same length of time. We were shown, at the bank of Hussey, Bahler & Co., on Wednesday last, thirty two ounces of amalgam, which was taken from a ton of rock that came from the Alameda quartz lode. The Seneca Falls mill is at work on ore from the Kearsarge. Nine quartz lodes have been recorded this week, all of which are located in the immediate vicinity of this place.

Letter to same from Bannack, August 20th, says: A stampede commenced yesterday for the Lemhi Valley new diggings. They are said to prospect from seven to thirty cents to the pan on the bed-rock. * * The Montana Mineral Land Mining company are employing a score of men sinking shafts, building foundation for a 20-stamp mill, getting out timbers and other material for a mill, and three sets of furnaces. The building for the mill will be one hundred by thirty feet, and put up in the most substantial manner. This company own several ledges—the Mademoiselle, the Dacotah, the Arizona and others.

Letter to same from Helena says: Mining is carried on in the old way in our neighborhood. The thirsty gulches are waiting for the Ten Mile ditch, which is well nigh completed. Prof. Hodge's mill, in Oro Fino gulch, will probably be in running order in three or four weeks. New York Gulch is rather dull, but the quartz in that vicinity gives encouraging promises. A new lode has been discovered on Trout Creek, about two miles from New York, which is said to be very rich. Rich diggings have been found in the Bear's Paw Mountains.

Republican of August 18th has the following: The mill of the Bullion company will arrive next week, and will be placed upon the New York lode. This mill has three Bullock's crushers with the capacity of fifteen stamps. The building is all ready for the reception of the machinery. The East Bannock company's mill commenced operations one week ago. A grand time was had on the occasion.

From the Radiator of the 11th of August we clip the following: Judge Turnley's mill is crushing quartz from the Park lode, and the last "clean-up" yielded \$1,739, being an average of \$46.50 to the ton. Many people are leaving for the "States" by way of Fort Benton and the Missouri River. It is estimated that within the last three weeks not less than five hundred well armed and well provisioned men have left here in small parties to prospect the Big Horn and Wind River Mountain country. Among these parties are many good miners and old prospectors. Blackfoot correspondent says: A good deal of excitement prevails here as to the richness of the Wind River country. A party of twenty men left here yesterday, and others are still going whenever they get a party strong enough to venture in that Indian country.

The Helena Republican asserts that a ton of gold was lately unloaded at the banking house of Hershfield & Co. in that city. The gold belonged to two men, and was taken from Montana Run, Confederate Gulch, in less than four months.

BRITISH COLUMBIA.

The Victoria Colonist of August 8th says: A private letter from Leech river states that the writer has prospected the Kokesies river, and found 100 colors to the pan. He then crossed the headwaters of the Leech, where he discovered a prairie 1,000 acres in extent, from which he thinks the gold has been washed down, and he purposes to thoroughly prospect the ground. Should this theory prove to be correct, a new era would dawn for Vancouver Island. It is said that a California company have obtained a controlling interest in the seam of coal recently discovered at or near Comox, by Mr. Teidman, and that they design opening it at once.

THE ENGLISH COAL COMMISSION.—The Queen of England has finally appointed a Board of Commissioners to investigate the probable quantity of coal, available for uses in the coal fields of the United Kingdom; whether it is probable that coal exists at workable depths under the Permian, new red sandstone, and other superincumbent strata; to inquire as to the quantity of coal at present consumed in the various branches of manufacture, for steam navigation, and for domestic purposes, as well as the quantity exported, and how far, and to what extent, such consumption and export may be expected to increase; and whether there is reason to believe that coal is wasted, either by bad working or by carelessness or neglect of proper appliances for its economical consumption. The Commission consists of the following named persons: The Duke of Argyll, Sir Roderick Impey Murchison, Sir William George Armstrong, Henry Hussey Vivian, Esq., George Thomas Clark, Esq., Joseph Dickinson, Esq., George Elliot, Esq., Thomas Emerson Forster, Esq., John Geddes, Esq., Robert Hunt, Esq., John Bete Jukes, Esq., John Hurlley, Esq., John Percy, Esq., Doctor of Medicine, Joseph Prestwich Esq., Andrew Crombie Ramsay, Esq., and John Thomas Woodhouse, Esq.

HOW TO SILVER COTTON CLOTH.—Cotton cloth, or thread, may be silvered in the following manner: Dissolve one drachm of nitrate of silver in six to eight parts of hot distilled water, and add gradually a sufficient quantity of liquid ammonia to re-dissolve the precipitate first formed. This solution is to be mixed with a thickening material, and may be printed in the usual way upon the cloth, which, in a moist condition, must be placed in a well-closed room, and exposed to the reducing action of hydrogen. The silver will appear in its peculiar metallic brightness, which may be increased by rubbing or burnishing the printed spots.

MOHAMMED SAVED BY A SPIDER.—When Mohammed, exposed to the wrath of his enemies, fled from Mecca, in company with Abubakar, they took refuge in a cave of Ther, where the two fugitives concealed themselves for three days. His pursuers, coming to the cave, found that a spider had woven a web across the entrance, from which circumstance they judged that no one could have recently entered it. They accordingly retired without examining the interior, and the prophet and his companion afterward escaped in safety. But for that spider's web, Mohammed had lost his life; and his career terminated only to be dimly written on the page of history.

Mining and Scientific Press.

W. B. EWER.....SENIOR EDITOR.

C. W. M. SMITH. W. B. EWER. A. T. DEWEY.

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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. O. P. Truedell will act as our Corresponding Agent and Solicitor, in the interior of this State, from this date. August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. SAN FRANCISCO, Jan 14th, 1866.

Mr. I. N. Hudson, is authorized to solicit subscriptions, advertising, etc., for the MINING AND SCIENTIFIC PRESS, in San Francisco, and to receipt for the same.

SUBSCRIBERS who do not receive the MINING AND SCIENTIFIC PRESS in due time, are requested to inform the publishers.

San Francisco:

Saturday Morning, Sept. 15, 1866.

THE RYERSON PROCESS.

The Ryerson process, for which the New York agent of the Mariposa estate has claimed such marvellous results in its application to some of the ores of the Josephine mines, was introduced into this State by the inventor some four years ago. It was mistake not, this machine was first put into operation upon the Mariposa estate, where an unsuccessful attempt was made to work some tailings which had been lying for some years exposed to atmospheric influences. The chief cause of the failure was attributed at the time to certain chemical changes, which, it was asserted, the tailings had undergone, and which operated unfavorably on the quicksilver used for amalgamation. The true reason was, probably, due to a lack of a full understanding of the nature of the process.

Two of the machines were subsequently put up in this city; the impression their working made upon the minds of quartz operators, may be inferred from the fact that several of the machines were soon after ordered for various parts of the State. Two of them were put up in Grass Valley, neither of which, however, run for any considerable length of time. The reason, therefore, we have understood, to be this the very good one—the insufficient quantity of gold in the rock. About the same time another machine was taken to San Bernardino county, where it was operated for a year or more with very fair results. Soon afterward, still another one was put up, if we mistake not, in Tuolumne county; but the latter machines were set in operation under the direct supervision of the inventor, Professor Ryerson. Of all that have been in operation, none, unless we except the one last used on the Mariposa estate, are now in operation.

Various kinds of crushing apparatus have been attached to these machines; any description of which will answer, provided the crushing is done thoroughly and dry. The distinctive feature of the process, is the use of superheated steam, as an aid to amalgamation. This is accomplished by first placing the crushed quartz in a kind of an upright steam boiler, in the bottom of which is placed a coil of perforated steam pipe, into which is conducted a flow of superheated steam, which is liberated in the midst of the quartz that overlies the coil. It is claimed that the hot steam instantly vaporizes the quicksilver, which ascends to the top of the boiler where it meets a surface cooled by the application of cold water upon the outside, and by which it is condensed and falls to the bottom, to be again and again vaporized as before. In the meantime the pulverized quartz in the bottom of the boiler is kept in a constant state of agitation by the rush of steam, and the gold more readily amalgamated by the vaporized quicksilver. The time required for amalgamation is about twenty-five minutes, and some 800 pounds are worked at a charge. By opening a man-hole

in the bottom of the amalgamator, the quartz is allowed to drop into any kind of a separator which may be desired, when the amalgam and quicksilver is readily collected.

The great desideratum for this process is to secure a fine and dry pulverization of the quartz. Several modes have been adopted, but that which would appear the most practicable, is the use of stamps with a fan exhaust, by which the quartz is delivered in the shape of an impalpable dust into a large chamber, from whence it is removed, for treatment with the superheated steam. The great drawback to this process is the difficulty of ventilating the chamber, or finding an escape for the air without losing, at the same time, a large amount of the quartz dust.

Messrs. Rounds & Strong, of this city, have recently patented an ingenious device for remedying this trouble, which consists of a kind of double chamber, the inner one of which is intended to receive the escaping air, with its accompanying dust, through a narrow funnel-shaped opening, into the throat of which is at the same time introduced a small jet of steam, by which the dust is saturated, and as the steam is condensed by means of a system of condensers, it is deposited in a receptacle at the bottom of the chamber, from which it is readily removed and dried for treatment. This mode of crushing, we should think, is far ahead of that adopted at Mariposa, which, in our opinion, would be most applicable to very soft material—it being first designed for reducing chert for the manufacture of gunpowder.

Another expedient was adopted with considerable success at San Bernardino, which consisted in placing a steep roof over the chamber, with low, hanging eaves, spaces being left between the roof and walls for the escape of the air. The peculiar current formed in the chamber had a tendency to deposit the dust on the floor, with very little loss through the openings.

We should be inclined to question the great disparity of yield between the old process and Ryerson's, as given in the late report of the New York agent of the Mariposa estate; yet, there can be but little doubt that better results have been obtained than by the process heretofore adopted, from the fact that the superintendent has, within a few days, ordered two other machines for the Josephine mine, one of which will be run exclusively upon tailings. The bullets used in these machines are cast of white iron, and are made, with the cylinders, at the Golden State Iron works.

MANUAL OF BLOWPIPE ANALYSIS.—We have received from H. H. Bancroft & Co., a copy of "Elderhorst's Manual of Blow-pipe Analysis and Determinative Mineralogy." It is adapted to the use of the beginner; and seems to us to supply, in a compact form, all the information necessary for the performing of most operations for the determination of minerals, which is contained in more extensive and more elaborate works. With this book, a blow-pipe, and a few pieces of borax and other re-agents, one can test almost any piece of rock sufficient to determine its composition. This present, which is the third edition, is made especially applicable to those species of minerals which occur on the American Continent, and contains one chapter which does not appear in former editions.

AUSTRALIA, for instance, where, according to Mr. Hopkins, a distinguished mining engineer, the Black Hill Company, with a paid up capital of \$120,000 coin, with quartz averaging less than \$2.25, coin, per ton, makes it pay 30 per cent. per annum on that capital! * * Truly we have much to learn from our Australian cousins, if they can do these things; and it is certainly incumbent upon the Government to send thither a competent person to ascertain the truth, and give us the advantage of his knowledge.—*American Journal of Mining*, N. Y.

If our New York cotemporary will peruse the last issue of the PRESS, he will observe that Californians can mine and mill similar rock to that of the Black Hill mine for less than \$1 per ton. There are scores of mills in this State crushing hard ores at a running expense of less than \$1.50 per ton.

[Editorial Correspondence.]

THIRTEENTH ANNUAL STATE FAIR.

THE THREE FIRST DAYS.

The Fair has now progressed through one-half of its allotted time, and notwithstanding exhibitors have been slow in coming forward with their articles, this Pavilion is now very well filled; nearly fifty entries were made yesterday—the third day of this exhibition. The city and its hotels are crowded with strangers, who are still continuing to arrive with every boat, train and stage. The San Francisco boat of this morning brought up a very full load. The weather has thus far been unusually favorable, and cheerfulness and vivacity everywhere prevail. The attendance at the Pavilion is increasing with each day's continuance of the Fair. The attendance, last evening, on the occasion of the Annual Address, was very large. Hundreds were in waiting outside before the doors were opened. The Hall was crowded, so much so that independent locomotion was rendered almost an impossibility—the only convenient progress being with the crowd, as it circulated about the hall in one dense mass of moving humanity. It is said to have been the largest attendance ever witnessed in this city, on any similar occasion. All the fashion and beauty of the metropolis were there, and as the mass swept slowly around the avenues, those who desired to listen to the address, gradually drew out from the moving crowd, and filled the chairs which were arranged in the vacant spaces about the speaker's stand.

A little before nine o'clock, the President of the Society, Chas. F. Reed, Esq., with the other officers and their invited guest, Dr. D. J. Macgowan, with the orator of the evening, filed slowly through the crowd until they reached the speaker's stand, when the President, with a few brief words, introduced to the audience Joseph W. Winans, Esq., of San Francisco, who delivered the regular Annual Address. The address was happily conceived, eloquently delivered, and received with most marked and earnest attention. It appears in full in the *Union* of this morning, and will doubtless be published in the *Bulletin*. It should be read by every Californian, and distributed far and wide among our friends at the East, as a truthful and eloquent exposition of the resources of our State, and the indomitable energy and enterprise of her population.

THE DISPLAY AT THE PAVILION.

As we have already intimated, is quite large and varied. The products of the soil, the mine, the forest, the orchard and the vineyard, are here in great profusion. Our manufacturers are represented in their abundance and variety, and almost everything which toil contributes within the limits of our State, to the development and progress of the human race, appears to have a representative here. While, however, nearly every department of industry is represented to some extent, it is very much to be regretted that such exhibition is not more full and varied in the different classes. The exhibition, as it is, furnishes the most abundant evidence, that with a little more effort on this part of those most interested, it might easily have been made vastly more extensive and attractive. True, space under present arrangements might in such an exigency have been scarce; but we presume the management would have been abundantly able to have provided for any possible contingency that might have occurred.

THE DISPLAY OF FRUIT

Is the most prominent feature, and is unusually large and varied, attracting much attention. Some idea of this display may be inferred from the fact that one individual, J. R. Nickerson, of Lincoln, exhibits 265 varieties of apples alone, in addition to 92 varieties of pears, 30 of peaches, 12 of quinces, 240 of grapes, besides figs, plums, dried fruit, raisins, preserves, etc. There are also seventeen other exhibitors of fruit, and ten of native wines.

THE MINERAL EXHIBITION.

The display of minerals, so far as it goes, is very interesting; but it is much short of what

it should have been. The chief cabinet minerals are contributed by Dr. J. M. Frey, of Sacramento, who furnishes thirty-six beautiful specimens. J. Johnson, Jr., also of Sacramento, furnishes a very fine case of cabinet minerals.

Professor W. P. Blake, of San Francisco, furnishes a very neat display of sixteen specimens of crude and refined petroleum, from different localities in California. Harkness & Co. exhibit massive specimens of silver ore from Blind Springs, Mono county, California. These masses weigh in the aggregate four hundred pounds, and contain over \$1,000 of silver to the ton, and twenty-five per cent. of copper. They form part of a shipment of three tons and a half which have just been sent to Swansea for reduction, to which place five previous shipments have been made. These specimens will be sent to the Universal Exhibition at Paris next year. The course of the vein whence they are taken is a little west of north and the mine lying directly south of Aurora, the course of the vein would be a little east of Virginia City, Nevada. This mineral exhibition, limited as it is, appears to form one of the most attractive features of the exhibition.

MINING MACHINERY.

Mining machinery, which should have occupied a large space in the lower hall, is confined to the single exhibition of one of Crall's Waltzing Amalgamating Pans, combined with a grinder, entered by the Vulcan Foundry of San Francisco. The grinding of this pan is effected by a series of four or more grinders revolving around a common center, and at the same time upon their own axes, and hence called a sun and planet motion. This double action appears to break up the rotary motion, which the pulp invariably receives in all other pans, more than in any other in use. It must also possess the additional advantage of constantly presenting new grinding surfaces to every part of both shoes and dies, thus avoiding the striated effect, in wearing upon pans which have a uniform revolving action constantly repeated over the same surfaces. We understand that this pan has been for some time in successful operation in San Juan, and one or two other places in Nevada county. The pan now on exhibition is destined for a mill near Nevada, and the inventor also has an order for the introduction of his principle into twenty pans of other construction, now at work in a mill in Amador county. The revolving mullers can be easily substituted in any of the flat-bottom pans in use, and at a small cost. A patent for this invention was recently obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

AGRICULTURAL MACHINERY.

The display of agricultural machinery is quite full; but consists mostly of those of Eastern manufacture. Out of the great number of agricultural inventions we notice only Mott's Double Reversible Plow, Hill's Improved Seed Sower, Hattabough's Hay Fork, exhibited in model only, a Grapa Crusher and Press combined, and two of Robinson's patent Fruit Gatherers. Instead of this meager display of home ingenuity, the lower hall should have been entirely filled with California inventions, to the exclusion, if need be, of all imported ones. We have no time in the present issue to notice the above, and one or two other Eastern inventions on exhibition. We shall endeavor to do so next week.

There will be a grand trial of agricultural implements across the river to-morrow, at which your correspondent will be present.

OTHER NOTABLE EXHIBITS.

Among the other notable exhibits on exhibition, we have barely room to mention to-day the superb specimens of silkworms by L. Prevost, of San Jose; samples of cotton manufacture, sheeting and twine, from W. H. Rector of the Oakland mills, etc.

STEAM AS MANUAL LABOR.—At a late fire in London, it is said that the steam fire-engine, did as much work at a cost of about \$60, as would have cost \$7,000 by the old system of manual labor.

HEAT PRODUCED BY THE AGITATION OF WATER.

While engaged in experimenting on the evolution of heat by the agitation of water, Mr. Rennie made use of a kind of churn capable of containing ten pounds of water, and which revolved at the rate of 232 revolutions per minute. He succeeded in raising the temperature of the water to a boiling point, and, as an illustration, an egg was boiled hard in ten minutes. A large portion of the heat generated in the Freiberg barrels may probably be accounted for in this manner. *Mining and Scientific Press.*

We are at a loss to see wherein heat can be generated by the simple agitation of water. Does it arise from friction of the water upon itself, or upon the sides of the agitating vessel; or is it caused by compression of the water? We do not know what Mr. Rennie's theory is; but it appears to us that the heat cannot be evolved by compression, for water is nearly incompressible. Friction causes the latent heat of one or both media to become sensible, according to the old theory. * * * *N. Y. Gas Light Journal.*

Whenever friction is overcome, heat is the result; and the heat thus produced is the exact measure of the force expended in overcoming the friction. Does our cotemporary doubt that there is friction between particles of water when in agitation? Professor Tyndall, in his lecture delivered January 23, 1862, says, in effect, that the water at the foot of a cataract is warmer than that on the top. The increased heat is produced by the friction between the particles of water being overcome in their clash at the bottom of the fall. The same authority, and there is no higher, admits the correctness of the theory that the sea is rendered warmer during a storm, by the mechanical dash of its billows, the one upon the other, being ultimately converted into heat.

Numerous experiments have been made with water, oil and quicksilver, by Mr. Joule, of Manchester, and others, to prove the evolution of heat by the agitation of liquids. These experiments were mostly made by placing the liquids in a suitable vessel and agitating them by paddles. These paddles have been driven by a measurable force, and the amount of heat, as carefully ascertained, has been found to be exactly equivalent to the force applied. Water has also been forced through capillary tubes, and the amount of heat generated by the friction of the liquid against the walls of the tubes found to bear the exact relation due to the force employed.

A given amount of force employed in causing two disks of iron to be rubbed against each other produces as much heat as when the same force is applied in agitating water, oil or quicksilver. Of course the temperatures of the different bodies would vary according to their respective capacities for heat. Water, for instance, would be only one-thirtieth of the temperature of mercury; but the absolute amount of heat generated, by the same expenditure of power, is in all cases the same. Sir Humphrey Davy produced heat by rubbing together two pieces of ice.

By employing a thermo-electric pile, in connection with a carefully constructed galvanometer, the heat generated in pouring water or quicksilver from one glass or cup to another, for eight or ten times consecutively, may be readily observed and accurately measured. To render such an experiment reliable, the glass or cup should, of course, be carefully swathed around with listing or some similar non-conducting substance, which would prevent any warmth being communicated to the glass by the hand.

In the above experiments we have no measure of the absolute amount of heat communicated to the liquids; but we may safely infer from what has been said, that Mr. Rennie could have had no difficulty in boiling an egg, or any number of eggs, in water heated by agitation.

THE DRAIN OF GOLD TO EUROPE.—In London the complaint is, that although large amounts of gold come into England from America and Australia, none of it stays there, but all goes to Paris. The latter city attracts the precious metals from all portions of the globe, and all nations seem at present to be her debtors.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to Inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

DUMPING-CAR.—James Braidwood, Wilmington, Ill.: I claim the frame, c, constructed substantially as herein recited, in connection with a rail track, and for the dumping of the cars, all constructed and operated as described.

APPARATUS FOR TREATING ORES WITH CHLORINE.—Eugene Gaussoin, Baltimore, Md.: I claim, 1st, The inclosing walls and floor, forming chambers in which the barrels revolve, and from which the fluid contents are removed by drains from the sides and the solid by an aperture at the corner of the arch. 2d, The combination of hollow axes and perforated walls, forming a series of connections from the generator, from barrel to barrel, and ultimately to the discharge apertures at the summit. 3d, The arrangement of the barrels with their operating gearing, so that their respective openings are in revolution presented alternately to the openings of the ones next in series above, and next below, to afford the means of discharging, as described. 4th, The combination of the revolving barrels and the openings, J, and wall openings, H, as and for the purpose described. 5th, The combination of the valve, K, with the drains, Y, W, as and for the purpose described.

REVERBERATING AND OTHER DRAUGHT FURNACES.—John R. Groat, Detroit, Mich.: I claim, 1st, In a reverberating or other draught furnace, so arranging the atmospheric passage ways, a, a, and b, b, in the bridge wall and arch of the furnace, that the air passing in thin currents, shall be heated by contact with the walls, and introduced from above and below into the compartment, D, in converging currents of the full width of the throat, C, when mingling with the unconsumed, carbonized gases evolved from the fuel in the fire-room, B, their complete combustion and perfect diffusion will be effected, substantially in the manner set forth. 2d, The combination of the plate, f, valve, g, rod, h, and lever, i, in the lower air passage and the similar combination in the upper air passage, or their equivalents for the regulation of the passage of air through the atmospheric passage ways, a and b, substantially as and for the purposes set forth. 3d, Constructing the bridge, C, across the lower atmospheric passage way for the protection of the valve, substantially as set forth.

FORCE PUMP.—E. B. Harris, Wilmington, Ill.: I claim the arrangement of the well, A, cylinders, C, C, valves, D, D, vertical rods, E, E, disks, F, F, valves, G, G, partitions, H, H, valves, I, I, and trough, J, operating in the manner and for the purpose herein specified.

METHOD OF GRANULATING FURNACE SLAG.—Chas. E. Morris and John Eynon, Bridgeport, Pa.: We claim granulating furnace slag by running it in its hot fluid condition from the furnace, directly into any suitable receiver containing cold water, substantially in the manner described.

COLLAR FOR DRILL RODS.—V. T. Priest, Decatur, Ill.: I claim, 1st, The combination of the rods section, A, and grooved section, A, connected by a screw-joint, with the inclined or mitered key, I, and key-seat, C, the adjustable band, F, and groove, H, substantially as described. I also claim the grooves, D, and recesses, E, in the upper section or rod, A, in combination with the band, F, having internal pins, G, substantially as described.

METHOD OF PACKING NITROLEUM, NITROGLYCERINE, ETC.—Taliaferro P. Shafner, Louisville, Ky.: I claim, 1st, The placing between a bottle containing nitrooleum, nitro-glycerine, or other liquid combustible compound and an outer casing or box, india-rubber (or caoutchouc) or other material, to serve as springs for the purpose of lessening concussion upon the said liquid substance by an exterior force resulting from a fall or otherwise, substantially as hereinbefore described. 2d, The application of plaster-paris powder, or of other equivalent non-conductor of heat and non-explosive or combustible substance, when saturated with the liquids hereinbefore mentioned, in combination with the arrangements or parts substantially as hereinbefore described. 3d, The use of metallic bottles for the purpose of confining the nitrooleum, nitro-glycerine, or other explosive liquid, in combination with the arrangements and parts, substantially as hereinbefore described.

DRIVING WELL-TUBES.—Calvin Shephard, Kattleville, N. Y.: I claim, 1st, The combination of the tube, A, constructed as described with the flange, F, the collar, E, and platform, D, suspended therefrom, all arranged and operating in the manner and for the purpose herein specified and shown. 2d, I also claim the platform, D, supported on the flange, F, as shown in combination with the well-tube, substantially as described.

GOLD SEPARATOR.—Charles F. Testman, Portland, Oregon: I claim three things, the first is the process of drying dirt in the boxes, a, a, and b, b, by means of the fire, e, the second is the application of the springs, o, o, to the roller, m, and the third is the method of constructing the amalgamating pans, r, r, and procuring thereof the gold dust in the quicksilver pockets by means of the continued revolutions of the stirrer, q, q.

PUMP.—Daniel M. Thomas, Dowagiac, Michigan: I claim, 1st, The arrangement of the plunger chamber, B, so as to communicate with the induction chamber, E, at its upper end, and the side passage, D, which leads to the receiving chamber, G, substantially as described. 2d, In combination with a force pump, which is constructed with upper and lower inlet chambers, leading to the main piston chambers, I claim the application of a safety-valve, h, to the vertical discharge pipe, H, substantially as described. 3d, The vibrating frame, C, connected to the working beam, L, by means of flexible connections, l, l, in combination with the eegments, J, J, and pendulum, J2 for operating the pump pistons, substantially as described.

PUMP.—Joseph Douglass, assignor to W. & B. Douglass, Middletown, Conn.: I claim the combination of the diaphragm, D, hollow piston-rod, B, having a perforated enlargement, B, and piston, G, as described, valve, H, with its shindle, d, and guide-fingers, c, cylinder, L, and side-pipe, I, provided with valves, J and J, all arranged and operating substantially as described for the purpose specified.

PATENTS can be obtained for citizens on this Coast, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In one half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California Inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. DEWEY & CO., Patent Agents, 505 Clay street, San Francisco.

MINING AND SCIENTIFIC PRESS.—The paper whose name we have just written, ranks among the leading scientific journals of the world. On mining matters it certainly has no equal, and more than all other causes combined, it has advanced the interests of the quartz miners of the Pacific Coast. Its editors are men of thorough education and large practical experience, and its list of contributors embraces many names distinguished in the various fields of scientific exploration and mechanical invention. The MINING AND SCIENTIFIC PRESS ought to circulate universally among intelligent Californians, to whom we most cordially commend it, and its traveling agent, O. P. Truesdell, who is now canvassing this city and county, and will shortly visit other counties in the southern part of the State, in its interest. [Stockton Daily Independent, Sept., 1866.]

STRANGERS visiting San Francisco can use the Burglar Proof Vault of the CALIFORNIA BUILDING, LOAN AND SAVINGS BANK, California street (one door from Sansome street), for the temporary deposit of Gold Dust, Coin, Bonds, etc., at a small monthly rent, according to the value of the property deposited, for which the Company will be accountable. 9v12-1m THOMAS MOONEY, President.

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[ADVERTISEMENT.]

FIFTH ANNUAL REPORT

Of the Directors of the California Building, Loan and Savings Bank, to the Shareholders, assembled September 10, 1866.

The shareholders, before proceeding to the election of nine Directors for the ensuing year, naturally desire, and are entitled to, an account of the management and affairs of the Society for the year that is passed.

The present Board of Directors undertook their duties a year ago under influences of great peril. The assets of the Society on our taking office were \$250,225 25. The assets in our hands to-day are \$300,000—thus doubling our means of public accommodation in one year. The profits realized for the six months ending the 30th April, are as follows:

DR.		
Interest received on mortgages.....	\$10,802 79	
Premiums received on mortgages.....	6,623 91	
Interest received on loans on stock.....	864 8d	
Profits on casual interest.....	632 00	
		\$27,923 50

CR.		
Interest due to depositors.....	\$8,280 44	
Interest paid to depositors.....	4,616 45	
Div. on stock, cash, 1½ per cent.....	4,025 28	
Expenses of management.....	5,200 00	\$22,122 25

Showing a clear surplus of full five thousand dollars, after paying 1 per cent. per month to all depositors; one and one-half per cent. per month to all the stockholders; beside paying expenses of management and all other incidental charges. This surplus, added to the reserve fund previously accumulated, and the paid up capital, makes a total of full fifty-six thousand dollars of reserve, to protect us against unforeseen losses or casualties in the prosecution of our business.

As yet the Society has incurred no loss from its loans. The number accommodated with loans for the past year, was 310.

The loans made now average forty to fifty thousand dollars a month. The past month they reached sixty seven thousand dollars, which is double the average amount made by the Society a year ago.

THE NEW BANKING HOUSE.

The Board have the pleasure to report (under instruction from the last annual meeting) the purchase and outfit of the new Bank premises, which stands the Society in \$48,000. The location selected, and the fittings of our new Banking House have won the approbation and confidence of the community. The income in rent from the upper part amounts to about a \$140 per month; the income from the vault and cellar for storing valuables amounts to about \$50 per month, leaving a liability on the business of the Society of about \$300 a month in lieu of rent. It has been remarked, and is remarkable, that since our Directors have bought and opened our new Bank, many other wealthy and influential money institutions have purchased on the same scale of us at considerably advanced rates, and are now causing to be erected large and elegant buildings, which undoubtedly adds to the value of ours; in fact, the block in California street in which we located our Bank, is evidently destined to become the "Money Market" of San Francisco. In connection with this topic, our Society, by the liberality of its aid in assisting parties to build, has stirred the industry and enterprise of the city, there being no scarcely a mechanic connected with the building trade idle.

THE DIRECTORS.

The Directors meet regularly in the Bank as often as they are notified. All applications for loans are considered by them, none are made which are not unanimously voted. There are duplicate cash books kept in the office. Every item of receipts or payments are twice entered—once by the Cashier in his book, and once by the Book-keeper in his. The two books are brought together at the close of the day's business, when each item is called over in presence of the President. If any mistake has occurred during the day, it is at once discovered by the footings of the books and the counting of the cash on hand. The books must therefore balance and agree every day at the close of business. The cash is then locked up in the vault by the President, and every morning is handed out again to the Cashier, who counts it before opening the Bank.

The Reserve Funds of the Society are invested in City of San Francisco Bonds, which, to the amount of fifty thousand dollars, are placed under the inner safe. The inner safe has three separate locks. A key to each is held, one by the President, one by Mr. Crim, the Secretary, and one by Mr. McCormick, member of the Finance Committee. The Directors have made every proper effort to increase and facilitate business. The recent extension of loans on manufactures and merchandise, has been attended with the best results.

PRESIDENT'S SALARY.

In view of the increased trust, duties and responsibilities of the President in the opening of the new bank, and the great expansion of business which arises, the Board of Directors, on the 3d of May, voted an increase of salary from \$150 to \$250 a month, subject to the approving vote of the present meeting. No other Director receives any salary.

INSURANCE.

The President reports that our Society, since it came into operation, paid out to various Insurance Companies \$11,000 as premiums on insurance of our various houses which are scattered through the city and suburbs, and that only \$1,000 were lost by fires on their houses during all that time, thus leaving a profit of \$9,000, which has gone over to the benefit of the members outside the members of the Society. And he recommends that the members of our Society form within themselves an Insurance Company, under the laws of the State, and in our own building, which, under prudent management, must, at no distant day, become a powerful appendage and profit to our Society. Respectfully submitted,

THOMAS MOONEY, President.

SAMUEL CRIM, Secretary.

Nathaniel Page,

J. W. McCormick,

A. Roscnfeld,

11v13 11

John Dunn,

W. G. Weir,

W. A. Jenko,

J. D. Connel.

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A VERY EXTRAORDINARY FIREARM is being exhibited in England, which, its English admirers claim, must entirely supersede Colt's revolvers, Spencer's seven-shooters, the needle rifle, the Enfield, or any other old or new invention. The principle of it is that in place of the chambers or the revolver attached to the pistol or rifle, the arm is, as it were, a skeleton pistol, having a barrel, stock and hammer. The cartridges are inserted in a separate horizontal elongated steel receptacle. When it is desired to load the pistol this thin elongated box containing the cartridges in separate cells, is inserted in the empty space left for it between the barrel and stock, and then, as fast as the finger can draw the trigger, it passes through of itself, until all the cartridges are fired. Another can then be inserted, and the firing continued at almost any rapidity, and for as long a period as there are receptacles of cartridges. A rifle could in this manner fire sixty shots a minute. A child could be reloading the empty cartridge cells with perfect safety. The principle is also applicable to big guns. The inventor is Mr. James Gale, the blind gentleman who invented the system of making powder non-explosive.

The *Scientific American* says that the idea is not new; as a Mr. Kellogg applied the principle several years ago to a rifle barrel mounted on a carriage. Possibly Mr. Kellogg might not have put the idea into so practical a shape as Mr. Gale has done, and hence the fact that it never came into general use.

A NARROW ESCAPE.—A boy of ten years, named Wm. Cain, fell into the weigh lock of the canal at Waterford, N. Y., at the moment it was being exhausted preparatory to weighing a boat, and was drawn in an instant down through the heavy timbers of the scales, and shot out with lightning-like rapidity by the rushing current, passing under the canal bank through a tunnel about one hundred feet long, and then over a fall of ten feet into the open stream. The bystanders had gathered on the bank, expecting to see his lifeless body crushed and floating down toward the Hudson, when he suddenly emerged and crawled up the wall unhurt.

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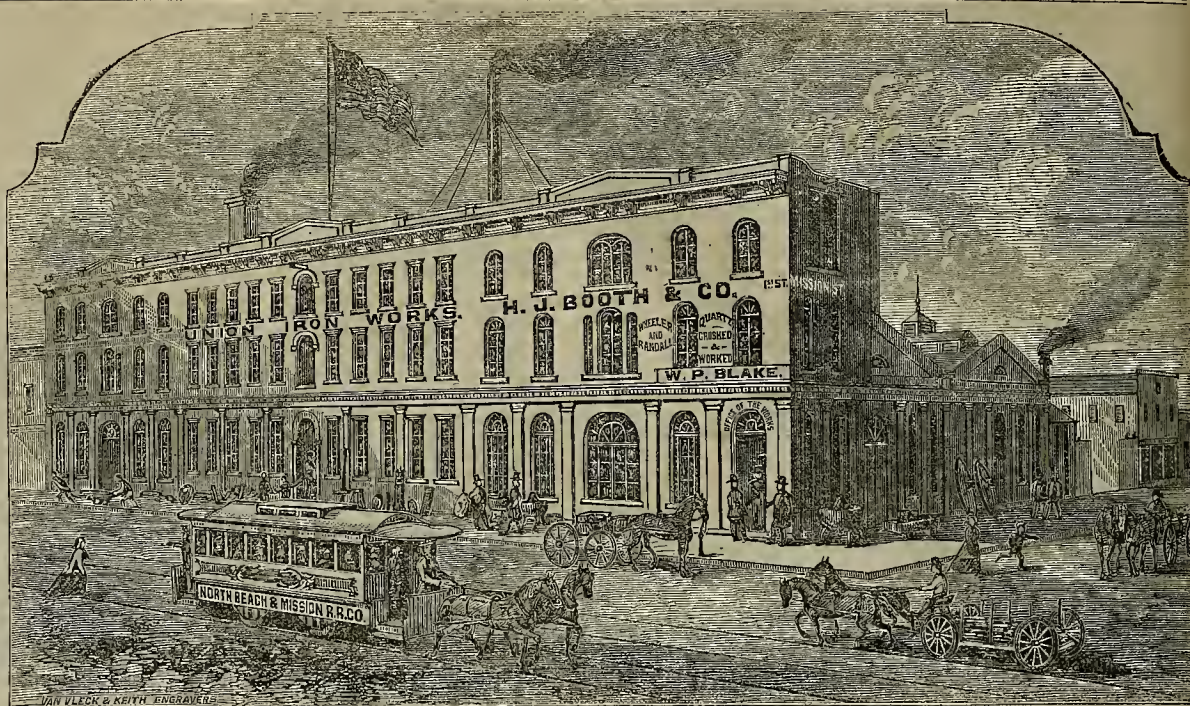
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Stills, Wrought Iron

Worms, etc., etc.

Manufactured to Order.

Old Boilers Repaired

D. CAMERON.

6v12-1y

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old cylinders, manufactured to order.

Front Street, between N and O streets, 14v11

SACRAMENTO CITY

SAN FRANCISCO

Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,

Manufacturers of

Marine and Stationery Engines!

Quartz Machinery, Saw, Flour and Sugar Mills, Mining

Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—

Wine, Cider, Cotton and Tobacco Presses

of the latest Improved Patterns.

Brodie's Improved Patent WIND BLAST SEPARATOR,

for Dry Crushing; Baux & Guindos' Amalgamator and Separator; Coat Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston

Packing, requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

MACHINERY OF ALL DESCRIPTIONS,

Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.

6v11-1y **DEVORE, DINSMORE & CO**

JAMES MACKEN,

COPPERSMITH,

No. 226 Fremont st., bet. Howard & Folson

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S

Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT

to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,

PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN

STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 23v12-3m

Excelsior Mine, Meadow Lake District, Nevada County.

We have been furnished with the following particulars of the above named mine, which is located in one of the most remarkable quartz districts in this State:

The Excelsior Mine was located in 1863, by H. Hartley and others, and comprises a claim of 4,000 feet, or shores. The company is incorporated as the Excelsior Consolidated Mining Company, and has two ledges with 2,000 feet on each, named the Union Ledge, No. 1, and Union Ledge, No. 2. The vein rock shows free gold at every point on the company's claim. A tunnel has been run into the No. 1 ledge, in which, at the depth of eighty-five or ninety feet from the surface, the vein seems to be divided, and the front vein has been cut, showing itself thirteen feet thick, carrying free gold, with a large amount of gold-bearing sulphurets. The tunnel is now being pushed ahead to cut the back strata, present indications showing it to be near at hand. A large force of men is also sinking upon the vein, from the surface, getting out ore for the company's new mill of twenty stamps, which will be ready to go into operation about the 5th of September. The ore from this part of the vein is very rich in free gold and sulphurets and resembles very much the Star Spangled Banner rock, of Nevada.

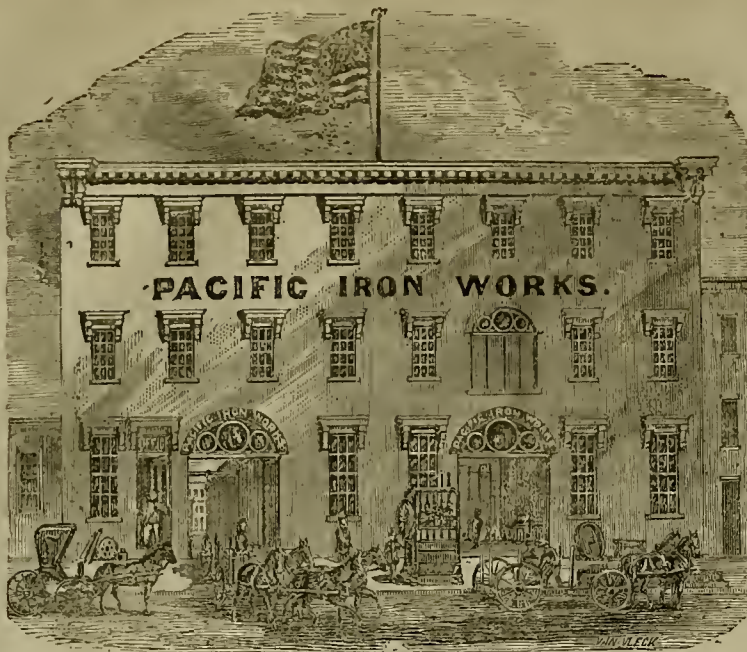
The mill of twenty stamps, 950 pounds each, is being built by Capt. I. S. Harrison, of San Francisco, for one-half of the mine, and is a most substantial piece of workmanship. It is founded upon the solid rock, and is being constructed under the superintendence of Mr. Peter Taylor, formerly of Virginia City, for a portion of the mine and mill. It reflects great credit on Mr. Taylor as an architect. The engine has the capacity of sixty-five horse power, and is supplied with steam from two splendid tubular boilers. The boilers are being set in the most substantial manner, in solid masonry lined with brick. The process of working will be by amalgamating in the batteries, then twenty feet of copper plates in front of batteries. The ore will then be deposited in immense tanks, one for each battery of four stamps. At the bottom of these are small apertures, which can be opened or closed at pleasure, to draw off the sand or sulphurets into small sluices, to live of Mosheim's concentrators. In order to obtain a regular supply, Mr. Taylor has introduced a novel idea of "drawing off." He runs a two-inch pipe over the top of the tanks filled with water; from thence he branches off with one-half inch pipes, furnished with stopcocks; these half-inch pipes lead to the aperture at the bottom of each tank, thus cutting the base from the mass of sand and sulphurets in the tank, and causing it to drop into the sluices and on to the concentrators, giving them the most regular supply needed. If more sand is wanted, more water may be turned on—it works effectually.

After the ore is concentrated, then it is ground into a pulp by means of a row of Eureka grinders, which revolve at the rate of 148 revolutions per minute. After being well ground, it passes from thence into a row of Knox's pans, for amalgamation.

The mill is built on a side-hill, with plenty of fall to carry the ore from one place to another without handling. The mill is supplied with one of Brodie's No. 2 quartz crushers. The mill house is a most substantial structure, being sixty-two feet long by thirty-two wide, with eighteen feet posts. The boiler and engine house is forty-two by twenty-six feet, and ten feet posts. Everything has been done to make it one of the most perfect mills in the county of Nevada, and from the appearance of the mine it cannot fail to prove an immense success. Capt. I. S. Harrison is superintendent of the mine and mill; Martio White, Esq., of Virginia City, is president of the company for the ensuing year.

WEBSTER AT BUNKER HILL.—The following anecdote is "going the rounds of the press." We don't know whether it is authentic or not—though it is not to be found in any copy of the Life of Webster; at any rate it is a good story:

When Daniel Webster was delivering his memorable speech at the dedication of Bunker Hill Monument, the crowd pressed forward to such an extent that some were fainting and some crushed. Officers strove in vain to make the crowd stand back. They said it could not be done. Some one asked Mr. Webster to make an appeal to them. The great orator came forward, stretched forth his hand, and said in a deep, stentorian tone, "Gentlemen, stand back." "It cannot be done!" they shouted. "Gentlemen, stand back," said he, without a change of voice. "It is impossible, Mr. Webster, impossible." "Impossible?" repeated Mr. Webster, "impossible? Nothing is impossible on Bunker Hill!" and the vast crowd swayed, and rolled back like a mighty ocean wave.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern. Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND NEARBY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House free of charge, and to any part of the city for 50 cents. 21v12 F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL,
K Street, between Third and Fourth,
SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and nicely ventilated. No expense has been saved to make it comfortable and pleasant for guests.

Price of Rooms very low. Meals, 25 cents. 8v12-6u B. EISENMENGER.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals, 25 cents. Board, per week, \$1.00. Board and Lodging, per day, 1.00. Single Rooms, 50. Railroad Ticket Office and Stage Office on first floor. 7v12-3m A. J. SENATZ, Proprietor.

A Rare Chance!
A Splendid Business in Alameda County.

FOR SALE AT A GREAT BARGAIN,
400 ACRES OF LAND,
INCLUDING
Landing, Wharf, Three Capacious Warehouses,

Capable of holding 12,000 Tons, which amount of grain was stored and shipped the past year. Connected with said business there is an extensive Lumber Yard; sales during last year, two million feet, which sales, and the entire business, can be largely increased.

The above is a rare opportunity for parties desirous of engaging in an active business that will pay a large dividend on the investment. Satisfactory reasons given for selling, and all information desired can be obtained on application by mail, or otherwise, to:

G. F. SMITH,
Notary Public and Searcher of Records, office "Beatty House," San Leandro. 8v12-1m

COPPERAS! COPPERAS!
200 BARRELS COPPERAS-SULPHATE OF IRON.
For sale, in lots to suit, by
BENJAMIN BRADY,
103 California street,
Southwest corner of Davis, up-stairs. 2v12

Capitalists, Attention!
QUARTZ MILL & MINING PROPERTY
FOR SALE
In Nevada County.

A NEW 8-STAMP QUARTZ MILL, 7 LEDGES AND 610 acres heavily-timbered Land, near Eureka, Nevada County, are now offered for sale. The Mill is run by steam power, and is in complete order for business. The ledges, which form the principal value of this property, are all large and well-defined, but require a further outlay of capital, in order to make them remunerative. For the lack of means to properly develop these claims, the present owners are disposed to sell the same for a reasonable price. Capitalists wishing to engage in mining will find this a splendid opportunity to purchase a property that will bear rich scrutiny, and offers superior inducements as an investment.

For address and further information, inquire of The Publishers of the MINING AND SCIENTIFIC PRESS, 505 Clay street, San Francisco. 22v12

HAYWARD, COLEMAN & CO.,
IMPORTERS AND REFINERS
—OF—
Illuminating, Lubricating,
—AND—
PAINT OILS!
CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR,
TANNERS', NEATFOOT, BLEEDED AND RAW
LINSEED, CASTOR AND CHINA NUT.

—ALSO—
SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of MILL owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning out.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!
An elegant and complete assortment on hand. 8v12-3m 414 Front street, San Francisco.

THE CALIFORNIA
Aerated or Unfermented
BREAD COMPANY.
Bakery on Folsom Street,
Between Tenth and Eleventh.....SAN FRANCISCO

MESSRS. TAGGART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in partnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit all orders for his truly wholesome and cleanly Bread. We have a sufficient number of delivery wagons, at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.

Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention:

Order box at C. J. Hawley & Co.'s Grocery, corner Second and Jessie streets; Rowland & Walker, 67 Clay street; Plum's Carpet Store, Montgomery street, opposite Lick House; G. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the route-men likewise. We expect soon to be prepared to supply Pastry, likewise the Boston Brown Bread, and Beans of the first quality. Due notice will be given.

The present Company is entirely independent of the former California Aerated Bread Company, neither of them having been in any way connected with that company. We would cordially invite the public to make a visit to our new bakery. 4v13-3m S. R. BULKLEY, Business Partner.

Metallurgy.

BOALT & STETEFELDT,
Metallurgists and Mining Engineers
AUSTIN, NEVADA.
Western Branch of ADELBURG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD, J. H. TIEMANN,
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
210 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.
11v12-1y

Copper, Lead, Gold, Silver,
Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,
Agent for Townshend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.
Special attention paid to Gold Bearing Sulphurets. 15v10-3m

To Copper Miners and Others Interested in
the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Haskell, for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to JOHN N. HEDDON, At Coffey & Eisdon's, San Francisco. 21v12

MARTIN & CO.,
Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE
PURCHASE OF COPPER ORES.
Assaying eight percent, and upwards of Copper to the ton. We will make advances upon Ores of Copper. San Francisco, Post Office Box 1229. 22

PACIFIC CHEMICAL WORKS
—AND—
ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of Manufacturing Chemicals, Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, &c.

FALKENAU & HANKS,
Laboratory, corner Folsom and Center streets,
Office, 629 Washington street, San Francisco. 21v12-1m

EUROPEAN
METALLURGICAL WORKS,
—AND—
Practical Mining School,

Bryant Street, between Third and Fourth,
SAN FRANCISCO.

THE Proprietors are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphurets, pyrites, and the so-called "reluctant ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, reducing by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.
The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining, and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.
S. F. KIMBALL, J. R. MURPHY, 10v10

JOHN TAYLOR & CO.
IMPORTERS,

AND DEALERS IN
ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BECKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, &c. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.
SAN FRANCISCO March 6, 1865. 11v10-1f

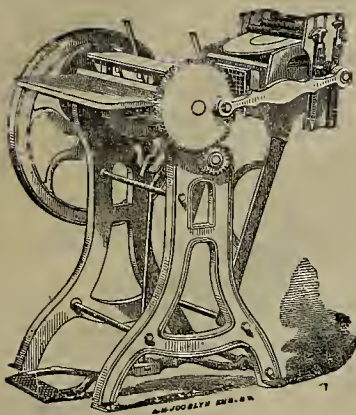
By EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co.'s tariff) on papers sent by express. If connecting express in the interior make additional charges, subscribers must themselves settle the same.

JOB PRINTING

-FOR-

THE PEOPLE!

Mining and Scientific Press



JOB PRINTING OFFICE,

505 Clay Street,

(Southwest corner of Sansome street, on 2d floor.)

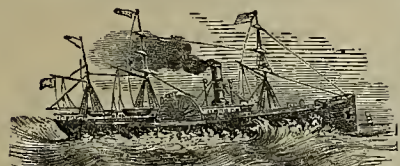
Formerly WATERS BROS. & CO.'S.

We are now prepared to offer customers the most favorable inducements to patronize our Book and Job Printing Establishment. Our office is supplied with an extensive assortment of Type, and the best style of Presses for open work and



CHEAP AND RAPID PRINTING.

Patrons will always find us well up to the times, ready to execute superior work, and furnish the same as cheap as any prompt and reliable firm in San Francisco. Our aim is to suit our customers in regard to style and prices, and will guarantee entire satisfaction to every reasonable individual who may be kind enough to bestow upon us his patronage.



We give especial attention, when desired, in assisting parties in making up or revising their copy. Particular care will always be given to the publication of

LAW BRIEFS,
CERTIFICATES OF STOCK,
MISCELLANEOUS BLANKS,
BLANK BOOKS,
MINING BLANKS,



BOOKS
PAMPHLETS,
CARDS,
CIRCULARS,
MINING REPORTS.

Orders from the interior will receive prompt attention. We shall take care to secure correctness in all work executed for parties out of town. Small packages can be forwarded by mail at small expense.



City customers, or persons visiting an Francisco, are invited to call and examine our specimens, when they will be politely informed of our prices by the Proprietors.

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Mining and Scientific Press Patent Agency, Newspaper and Job Printing Office.
505 Clay Street, San Francisco.
A. T. DEWEY. W. B. EWER. C. W. M. SMITH.

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BOOKBINDERS,

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15v12-3m SAN FRANCISCO.

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(SUCCESSOR TO O. GOR)

MARBLE WORKS,

No. 408 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Planners' Slabs

Etc., On hand and Manufactured to order.
Goods shipped to all parts of the State. Orders recd. promptly filled.

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General Furnishing Undertaker,

611 Sacramento St., corner of Webb, San Francisco.

Barstow's Metallic Barial Caskets and Cases.

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THEODORE KALLENBERG,

Maker of Models for Inventors.

MACHINES, MATHEMATICAL, OPTICAL AND PHIL.
SOPHICAL Instruments, Scales, Weights, etc. Steel
Stamps, Dies and Die Sinking, Engraving Stamps. Repair
ing of machinery promptly attended to.
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Palmer's Patent

ARTIFICIAL LEG,

Manufactured in Philadelphia, Penn.

JARVIS JEWETT, AGENT.

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HUCKS & LAMBERT,

SOLE MANUFACTURERS OF THE CELEBRATED

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AXLE GREASE,

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8v13

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STENCIL PLATE CUTTER,

-AND-

BRAND MANUFACTURER,

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Names for Marking Linen, Brushes, Ink and Marking

Pots for sale. 9v13-3m

FIRE, HYDRAULIC & SUCTION HOSE,

And Leather Belting.

M. M. COOK & SON,

361 Battery Street, San Francisco.

Are now manufacturing as above, Fire, Hydraulic and

Suction Hose, and Leather Belting, of any dimension and

in any quantity which may be desired. Fire Hose and

Belting constantly on hand or manufactured to order. Also

Saddles and Horse Collars.

The subscribers would respectfully ask purchasers to call and examine their stock—also testimonials of the efficiency of their work from such as have used their hose both for fire and mining purposes. A diploma was awarded to us last year, by the Mechanics' Institute, of this city, and a silver medal this year.

12v11-1y

Empire Sewing Machine Company.

Principal Office, 616 Broadway, New York.

GREAT IMPROVEMENT IN SEWING MACHINES.

Empire Sewing Machine. It is

thus rendered noiseless in action. Its motion being all positive. It is not liable to get out of order. It is the best Family

Machine! Notice is called to our new and improved

Manufacturing Machine, for Tailors and Boot and Shoe

Fitters. Agents wanted, to whom a liberal discount will be given. No consignments made.

EMPIRE SEWING MACHINE COMPANY.

7v13-5w

RADICAL CURE

-OF-

RUPTURE!

Treatment of all Deformities of the Body, by DR. A.

FOLLEAU'S process, 624 Washington street, up stairs,

Washington Baths Building, between Montgomery and

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DR. A. FOLLEAU

Has his studies and manufactures in the same building.

Every kind of Apparatus, Trusses, Orthopedic Instru-

ments, Artificial Limbs, etc., are manufactured and applied

by himself.

He has no connection with any Agency. 8v13-1y1p



New Mining Advertisements.

Big Blue Lead Gold and Silver Mining Com-

pany, Cove District, Tulare County, California.

Notice is hereby given that 177 shares of Stock of the

above Company, and belonging to the company, will

be sold at public auction, on FRIDAY, October 5th, 1886,

12 o'clock noon, at the auction room of John Middleton &

Son. By order of the Board of Trustees.

M. G. ELMORE, Secretary.

Office, No. 316 Montgomery street, San Francisco. sel5

Illegal Supplemental Advertising.—It

would be well for Mining Companies, whose advertise-

ments are repeatedly appearing in the Supplements of

daily papers, to inquire into the legality of that class of

Diamond Copper Mining Company, Rockland

District, Del Norte County, California.

Notice.—There are delinquent, upon the following de-

scribed stock, on account of assessment levied on the

eighth day of August, 1886, the several amounts set opposite

the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allen Chas D.	289	10	\$10 00
Crosby D. A. Co.	Not issued	718 5-6	\$18 83
Coolidge J. A. Trustee.	Not issued	173 5-6	\$17 37
Quold Chas.	287	6	5 00
Keefer W. A.	288	1	1 00
Mason J. A.	310	2	2 00
Randall R. B. Co.	Not issued	50	50 00
Selig M.	285	8 1/2	8 33
Selig M.	288	6	6 00

And in accordance with law, and an order of the

Board of Trustees, made on the sixth day of September,

1886, so many shares of each parcel of said stock as may be ne-

cessary, will be sold at public auction, by Messrs. Olney &

Co., at No. 418 Montgomery street, San Francisco, Cal., on the

second day of October, 1886, at the hour of 12 o'clock, M., of

said day, to pay said delinquent assessment thereon, to-

gether with costs of advertising and expenses of sale.

J. A. COOLIDGE, Secretary.

Office, 38 Montgomery Street, San Francisco. sel5

George Washington Gold and Silver Mining

Company, Silver Mountain District, Alpine County, Cal.

Notice.—There are delinquent upon the following described

stock, on account of assessment levied on the fourteenth

day of August, 1886, the several amounts set opposite the

names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adamson C. P.	174	6	\$5 00
Austin H. S.	329	1	1 00
Bowland Wm.	241	1	6 00
Boggs Geo W.	137	5	5 00
Boggs A. G.	67	11	11 00
Blair Joseph F.	307	6	6 00
Brewer M. T.	321	6	6 00
Christianson Phillip.	175	15	15 00
Christianson Phillip.	176	10	10 00
Chobson Margaret.	238	2	2 00
Custer John.	278	5	5 00
Grigsby T. L.	99	10	10 00
Grigsby A. D.	100	10	10 00
Grigsby E. D.	79	10	10 00
Grigsby R. F.	169	10	10 00
Hayward C. C.	45	5	5 00
Linn Geo.	283	10	10 00
Miller John.	232	6	6 00
McGill Wm.	41	6	6 00
McDonnell A. C.	336	7	7 00
Nash C. H.	63	3	3 00
Nash C. H.	64	3	3 00
Pearson I. N.	212 and 213 6-a	10	10 00
Snitelle J. W.	173	14	14 00
Tyther Richard.	158	2	2 00
Van Mathew.	161	6	6 00
Vick J.	235	10	10 00
Vick J.	236	5	5 00
Whitely G. J.	239	10	10 00
Ward Norah.	237	3	3 00
Williamson John.	300, 318, 319, 333 6-a	20	20 00

And in accordance with law, and an order of the Board of

Trustees, made on the fourteenth day of August, 1886, so

many shares of each parcel of said stock as may be necessary

will be sold at public auction, at salesrooms of Messrs. Olney

& Co., No. 418 Montgomery street, San Francisco, on the first

day of October, 1886, at the hour of 12 o'clock, M., of said

day, to pay said assessment thereon, together with costs of

advertising and expenses of sale.

W. D. ROOT, Secretary.

Office, 338 Montgomery street, San Francisco. sel5

Lady Bell Copper Mining Company, Low Di-

vision Mining District, Del Norte County, California.

Notice.—There are delinquent, upon the following de-

scribed stock, on account of assessment levied on the third

day of August, 1886, the several amounts set opposite the

names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Luke Barlow.	397	25	\$25 00
Luke Barlow.	401	25	25 00
James S. Frazier.	233	100	100 00
James S. Frazier.	234	100	100 00
Henry Wort.	34	100	100 00
Henry Wort.	356	50	50 00
Henry Selby Wort.	347	50	50 00

And in accordance with law, and an order of the Board of

Trustees, made on the third day of August, 1886, so many

shares of each parcel of said stock as may be necessary will

be sold at public auction, at the salesrooms of Maurice

Dore & Co., on Tuesday, the second day of October, 1886, at

the hour of 12 o'clock, M., of said day, to pay said delinquent

assessment thereon, together with costs of advertising and

expenses of sale.

C. HEYWOOD, Secretary.

Office, 311 Market street, San Francisco, Cal. sel5

Rattlesnake Gold and Silver Mining Company,

Spring Valley District, Yuba County, California.

Notice.—There are delinquent, upon the following de-

scribed stock, on account of assessment levied on the eighth

day of August, 1886, the several amounts set opposite the

names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bradley M.	22	144	\$144 00
Babb L. H.	11	25	25 00
Carl J. F.	20	61	61 00
Coghlin A. J.	19	78	78 00
De la Bigne J. B.	2	91	91 00
Fisher Wm.	3	70	70 00
Hawley Wm.	12	30	30 00
Hawley Mrs S. M.	13	5	5 00
Huard Dr A.	17	210	210 00
Huard Mrs D.	23	20	20 00
Hughes F. A.	34	40	40 00
Janison C. J.	16	274	274 00
Lamory E.	4	100	100 00
Leland G. H.	26	10	10 00
Mattat M.	27	20	20 00

And in accordance with law, and an order of the Board of

Trustees, made on the eighth day of August, 1886, so many

shares of each parcel of said stock as may be necessary, will

be sold at public auction, at the salesroom of John Middleton

& Son, No. 404 Montgomery street, San Francisco, on the

third day of October, 1886, at the hour of 12 o'clock, M., of

said day, to pay said delinquent assessment thereon, to-

gether with costs of advertising and expenses of sale.

JOHN F. LOHRE, Secretary.

Office, 318 California street, Up-stairs, San Francisco. sel5

Mining Notices--Continued.

Arbitrios Mining Company, Batopilas Dis-

trict, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of

Trustees of said Company, held on the thirtieth day of

August, 1886, an assessment (No. 11) of one dollar (\$1) per

share was levied upon the assessable capital stock of said

Company, payable immediately, in United States gold and

silver coin, to the Secretary, at his Office, No. 811 Mont-

gomery street, up stairs, San Francisco.

Any stock upon which said assessment shall remain un-

paid on the third day of October, 1886, shall be deemed de-

linquent, and will be duly advertised for sale at public

auction, and unless payment shall be made before, will be

sold on Friday, the twenty-sixth day of October, 1886,

to pay the delinquent assessment, together with costs of

advertising and expenses of sale. By order of the Board of

Trustees.

A. MARTINON, Secretary.

Office, 811 Montgomery street, San Francisco, Cal.

N. B.—Until further notice, all advertisements of this

Company will appear in the "Mining and Scientific

Press."

sel

Assurance Mining Company--Location: Ocel-

dental Lode, San Benito Mining District, County of Mon-

terey, State of California.

Notice is hereby given, that at a meeting of the Board of

Trustees of said Company, held on the twenty-third day

of August, 1886, an assessment of one dollar (\$

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Framework; E, Screws; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been burished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

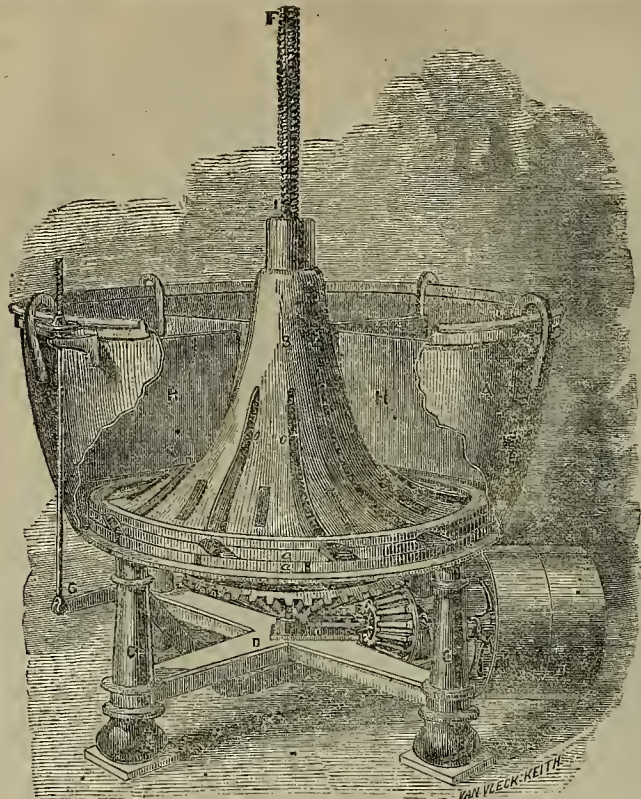
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

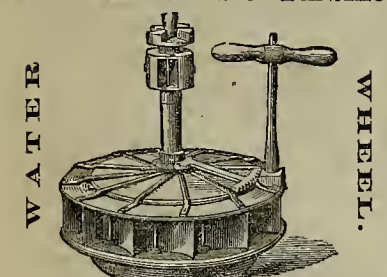
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
141
San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 319 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to
KNAPP & GRANT,
— ALSO —
San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by
KNAPP & GRANT,
San Francisco.

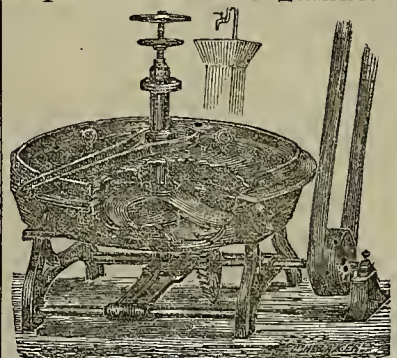
PAGE'S PATENT FOR RAISING SUNKEN VESSELS!

SHIPPING AND INSURANCE COMPANIES, AND other parties upon this Coast or in the Atlantic States, having occasion to avail themselves of this invention, which has been tried and proven a success, will please address, for the present, JOSEPH DAVIN, Esq., San Francisco or at the office of the MINING AND SCIENTIFIC PRESS, 5413

AUSTIN Z. PAGE, Patentee.

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and its execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for BOOK AND PAMPHLET PRINTING entrusted to the Mining and Scientific Press Job Office.

BAUX & GUIOD'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1884, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIOD'S Pan, are the following: The trifling cost for attendance; Its small cost; Its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping, as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the trifling power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jefferson Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Grail's Gravel Cement Works, Nevada county; Walman's Chlorination Works, Nevada, Cal.; Gold Hill Quartz Mill, Washoe.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hough & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address
J. H. BAUX,
Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 418-8d

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE

ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent,

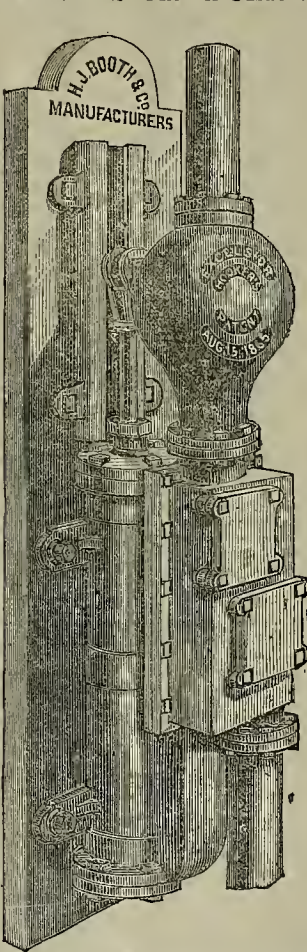
At Job M. SEAMAN & Co's, 631 WASHINGTON STREET, San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It has an eight-day piece, and runs from year to year without change. It can be examined at the Office of the MINING AND SCIENTIFIC PRESS. 21316-tf

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 1912

EXCELSIOR PUMP!



HOOKER'S PATENT!

CHALLENGES COMPETITION!

THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION, for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufactories, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITTAN & CO.,

General Agents,
120 Front street, San Francisco. 21313-3m

Send for Price List.

STODDARD'S CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER, OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by

S. B. STODDARD,
Corner of Battery and Pacific streets.
June 23, 1886. 25112-3m

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurates, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation. Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, Corner Mission and Fremont streets, where orders will receive prompt attention. 15112-3m

BRUCKNER'S

Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

416 Market street, San Francisco.

Kerosene and Gas Stoves.

TEA AND COFFEE BOILERS, GLUE POTS, OIL CANS, etc., etc.

- ✓ All the Cooking for a family may be done with Kerosene Oil or Gas, with less trouble, and at less expense, than by any other fuel.

Each Article manufactured by this Company is guaranteed to perform all that is claimed for it. Send for Circular. LIBERAL DISCOUNT TO THE TRADE.

KEROSENE LAMP HEATER COMPANY,
206 Pearl Street, New York. 6113-2m

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by
THOMAS H. SELBY & CO.,
2212 3m Nos. 116 and 118 California street

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet. One to three-ply hose made. All orders punctually attended to.
S. HOWARD,
325 Davis street, San Francisco.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDARD'S IRON WORKS,
114 Beale Street, San Francisco. 25112-2m

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 3113f SAN FRANCISCO.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery OF ALL KINDS.

Especially attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at all reasonable rates in the city.

Refer, by permission, to—
Governor F. P. Low; C. T. Menden, Stockton; Jacob Underhill & Co., San Francisco; J. W. Slove, Russell & Erwin Manufacturing Company, Office, No. 120 Front street, San Francisco. 4112

Economy in Advertising.—The MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than ONE HALF the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

Remarkable Cholera Cures.

Although the excitement with regard to the appearance of the cholera on this coast, has now pretty much died away, the following paragraph, with regard to some recent discoveries respecting its mode of treatment, will doubtless be read with considerable interest:

FIVE HUNDRED AND NINETY CASES TREATED—NO DEATHS.

All the medical cholera schools use camphor in their treatment of cholera, and its value has been admitted on all sides, yet it has always failed to effect the desired cure, unless the experience of Dr. Rubini should prove an exception. The "saturated spirits of camphor" used by this eminent Neapolitan physician consists, as we learn from a correspondent of *The London Star*, of equal parts, by weight, of camphor and spirits, and to the power thus obtained he attributes his success in the treatment of the disease. The ordinary spirits of camphor consists of one part by weight of camphor to nine parts of spirits of wine, while the homeopathic preparation is made by mixing one of camphor to five of the spirits of wine. The quantity of camphor which water will take up is small, and to obtain the "saturated spirits of camphor of Rubini," it is necessary to distill spirits of wine, and get rid of so much of its water as will bring it to 60 degrees overproof, in which condition it will dissolve and hold in solution its own weight of camphor.

With this "saturated spirits of camphor" Dr. Rubini treated in Naples 592 cases of Asiatic cholera without the loss of a single patient. Of these 592 cases 200 were cured in the Royal Alms-house, 11 in the Royal Poor-house, and 166 in the 3d Swiss Regiment of Wolff. That the 377 cases treated by Dr. Rubini in these public institutions were all genuine cases of Asiatic cholera, and some "terribly severe," and that all recovered, the evidence of the following distinguished individuals, with their official seals attached, sufficiently attests: Il Generale Governatore Ricci; Il Maggiore Commandante Nicola Forui; Il Capitano Commandante Carlo Sodero; Generale Commandante Fileppo Rucci, Colonel Eduardo Wolff.

The method of cure is as follows: "When a man is seized by cholera he should at once," says Rubini, "lie down, be well wrapped in blankets, and take every five minutes four drops of the saturated tincture of camphor. In very severe cases the dose ought to be increased to from 5 to 20 drops every five minutes. In the case of a man of advanced age accustomed to take wine and spirits, where the drug given in drops has no effect, give a small coffee spoonful every five minutes, and in a very short time the coveted reaction will occur. Ordinarily, in two, three or four hours, abundant perspiration will come out, and then cure will follow." "The preventive method," writes Dr. Rubini, "is this: Let those who are in good health, while living in accordance with their usual habits, take every day five drops of the saturated spirits of camphor upon a small lump of sugar (water must never be used as a medium, or the camphor will become solid and its curative properties cease), and repeat the dose three or four times a day. Spices, aromatics, herbs, coffee, tea and spirituous liquors should be avoided."

Here, then, we have as strong a *prima facie* case made out as can well be conceived in favor of the preventibility and curability of the Asiatic cholera, and that by a remedy which is at once portable and inexpensive, and which all sections of the medical profession have heretofore employed, and can, therefore, raise no objection to employing again in increased potency.

J. B. CONE, BUSINESS AGENCY.—Makes private sales of Property and Business Places of every description, in the city and throughout the State; procures partners with large and small amounts of money; negotiates sales of mining property, and does a General Agency Business. Patronage solicited by mail, express, or by personal application at the office, 402 Montgomery Street, San Francisco, California. 23v111

BROWN & BEADLE,

Offer their services to

INVENTORS AND THEIR ASSIGNEES,

PATENT SOLICITORS.

They will make Preliminary Examinations in the Patent Office, with a view to ascertain the Patentability of any invention that may be submitted to them for that purpose; will prepare the necessary papers for those who wish to make Applications for

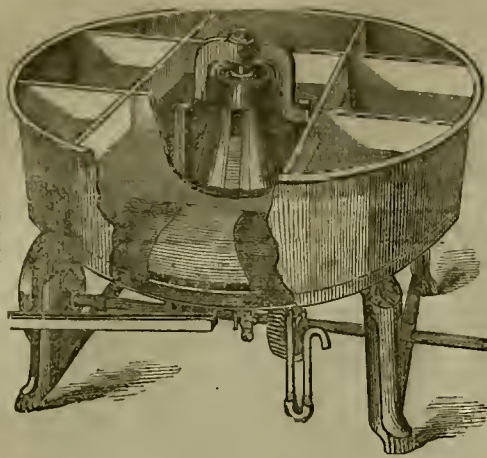
Patents for their Inventions,

—OR FOR—
EXTENSIONS OR REISSUES OF PATENTS

Already granted; will act as Attorneys in presenting Applications at the Patent Office, and in managing them to a final issue; will draw up Assignments; will examine into the condition of rejected Applications when desired to do so, and undertake the prosecution of such as may be considered patentable, and do whatever else is usually done by Patent Solicitors.

Address, P. O. Box 257, Washington, D. C. 7v12-3m

Knox's Improved Patent Amalgamator and Separator, With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of

14v13-212

At the Golden State Iron Works, No. 19 First street, San Francisco.

ISRAEL W. KNOX, or
W. A. PALMER, Inventors,

CAUTION—TO WHOM IT MAY CONCERN.—The public are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 27th, 1865, to Professor Henry Wurtz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY,
OF NEW YORK.

Assignees of letters patent granted to Prof. Henry Wurtz, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.

The terms and conditions upon which rights to use the process are obtainable, can be had on application to
WM. SLOSSON,
Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 5v13

NEW YORK PRICES.

C. E. COLLINS,
No. 603 Montgomery street, San Francisco.
EXCLUSIVE AGENT
—FOR THE—
AMERICAN
WATCH FACTORY.

A large assortment of these
Superior Watches,
In Gold and Silver Cases,
Constantly on hand, and sold at Factory
prices. Also,
ENGLISH AND SWISS WATCHES,
Imported directly from the Manufacturers.

The American Company are now making
VERY FINE WATCHES FOR LADIES.
23-A large assortment of Gold Chains
and Jewelry. 25v10-6m

NEW YORK PRICES.

TIME & LABOR SAVED
BY USING
STANDARD SOAP COMPANY'S
WASHING POWDER.

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for use in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1-lb each, and in wooden boxes of 10-lb bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15v12j

WE ARE NOW OFFERING
OUR IMMENSE STOCK
—OF—
Fine Custom Made Clothing

Gents' Furnishing Goods

AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of

ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,
Cor. of Washington and Sansome streets.

8v10

ANNUAL REPORT
—OF THE—
Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 21, 1859, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD. \$750,000

II.—The amount of the Assets is ONE MILLION AND FIFTY ONE THOUSAND FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS. \$1,651,420.37

III.—The Company has NO DEBTS.

IV.—The amount of Insurance effected during the year, and which remained in force December 31, 1865:

Fire. \$12,973,949

Marine. 481,408

This Company commenced underwriting Marine Risks, August 1, 1865.

V.—This Company insures against the following risks, viz: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, REFRIGERATORS, VESSELS, AND ON ALL MARINE AND INLAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$50,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

J. HUNT, President.

A. J. KALSTON, Secretary.

San Francisco, January 19, 1866.

Louis McLane,	Edward Martin,	A. Hayward,
W. C. Ralston,	Chas. Mayne,	T. L. Barker,
A. L. Tuley,	Moses Ellis,	Alfred Wells,
William Alvord,	E. L. Goldstein,	C. Meyer,
Frederick Billings,	Wm. T. Coleman,	J. D. Fry,
Jonathan Hunt,	John O. Earl,	M. Rosenbaum,
A. E. Forbes,	Lloyd Davis,	H. H. Brice,
Anson G. Stiles,	Geo. W. Beaver,	T. Lemmon Meyer,
Abm. Seligman,	Adam Grant,	Samuel J. Sweeney,
L. B. Benckley,	Alphons Bull,	Edgar Mills,
Wm. Schramm,	E. W. Wilson,	G. W. Morse,
L. Sachs,	D. J. Oliver,	C. T. Wheeler,
Jas. De Fremery,	William Schelle,	Marysville,
John G. Bray,	Morton Schoeman,	J. H. Jewett,
H. Hanson,	H. Hanson,	Stockton,
David Stern,	D. W. C. Rice,	T. R. Anthony,
D. O. Mills,	Oliver Eldridge,	Portland, Oregon,
E. W. Leonard,	E. W. Leonard,	W. L. Lewis,
G. H. Howard,	S. Steinhardt,	Jacob Kann,
Moses Heller,	P. L. Weaver,	Virginia, Nevada,
H. M. Newhall,	Wm. Hooper,	Wm. Sharon,
G. T. Lawton,	Alfred Borel,	

State of California, City and County of San Francisco, ss. On this nineteenth day of January, A. D. one thousand eight hundred and sixty-six, personally appeared before me, H. S. HOMANS, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. KALSTON, who being duly sworn, depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.

Sworn and subscribed to before me, this 19th day of January, A. D. 1866.
5v13-1f H. S. HOMANS, Notary Public.

WM. H. KEITH & CO.,
Chemists and Apothecaries,

PROPRIETORS AND MANUFACTURERS OF

WM. H. KEITH & CO.'S WINE OF PEPSINE, OR REN-net Wine, a new and efficacious remedy for Dyspepsia, Gastralgia, etc. WM. H. KEITH & CO.'S GLUCOLIN, a new and valuable compound of Cod Liver Oil, put up in glass jars. WM. H. KEITH & CO.'S LEMON APERIENT, or Purgative Lemonade, an agreeable, cooling and active purgative, or mild laxative, as required. WM. H. KEITH & CO.'S SAPHORACIOUS TOOTH POWDER, DEWINE'S TOOTH LOZENGES, for the cure of coughs and colds. WM. H. Keith & Co's Florentine Tooth Wash. Wm. H. Keith & Co's Oranula Effervescent Citrate of Magnesia. Wm. H. Keith & Co's Rosemary and Castor Oil Hair Invigorator.

WM. H. Keith & Co. being in frequent communication with Eastern and European markets, are continually receiving their stock of Pure Drugs, Raw Chemicals, Fancy Goods, and Toilet Articles, Pure Oils, etc. They also give special attention to replenishing ship medicine chests.

Also, received a large and well-selected invoice of HERNSTEIN'S CELEBRATED INSTRUMENTS, consisting in part of Amputating and Obstetric sets, Pocket Cases, etc. Physicians and others at a distance ordering goods from us, can depend upon having their orders filled with the same regard to quality and price, as though obtained in person, and we give particular attention to packing and forwarding the same.

WM. H. KEITH CO.,
Apothecaries; Hall No. 521 Montgomery street,
Between Clay and Commercial, San Francisco.
15v12j

California Steam Navigation
COMPANY.

Steamer CAPITAL.....CAPT. E. A. POLE.
" CHRYSOPELIS.....CAPT. A. POSTER.
" YOSEMITE.....CAPT. A. POSTER.
" COCKLE.....CAPT. W. BROMLEY.
" JULIA.....CAPT. J. C. CONKLIN.

One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SENATOR, leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.

Office of the Company, northeast corner of Front and Jackson streets.
13v12

B. M. HARTSHORNE,
President.

Portable Steam Engines!

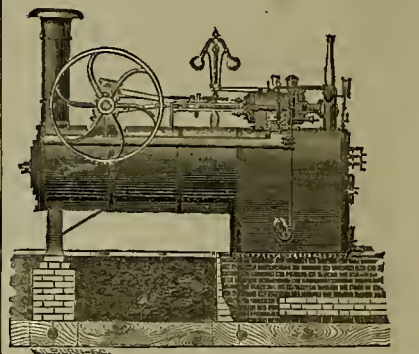
"Hoadley's" and "Hittinger's" Make,



HOADLEY'S.

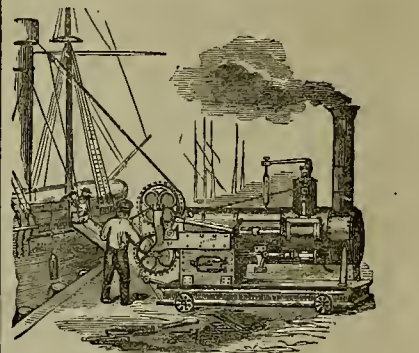
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

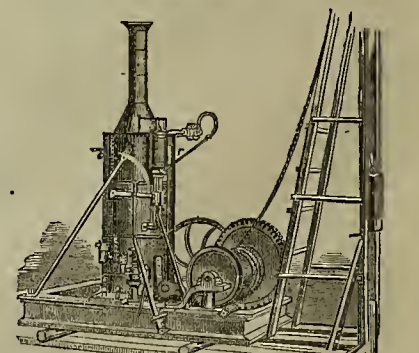
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, AND ECONOMY, with the Minimum of weight and price.

These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes. Steam can be put up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises,) in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.

All sizes on hand from 3 to 30 horse power, with an without carriages.

Also, Portable Saw and Grist Mills.

For sale by
TREADWELL & CO.,
18v12 Corner of Front Market and streets.

A Hint to Advertisers in General, and San Franciscans in Particular.

The following article from the *Mountain Messenger*, published in Downieville, the county seat of thrifty Sierra, illustrates an important fact which some people are prone to overlook, viz: that it is not the lowest priced advertising which is the cheapest. For instance, an advertisement inserted for \$30 in a journal issuing 3,000 copies, is twice as cheap as \$20 in a paper having only 1,000 circulation:

Judicious Advertising.

It is passing strange how few business men in the cities of this State understand advertising judiciously in the country press, whether making their arrangements with the publishers or their agents in San Francisco. There are five different agencies which receive advertising for the country papers of the interior, only two or three of which are able to secure an agency for first-class papers, such as have an extensive circulation and established rates of advertising, from which they decline to vary at the option of the advertiser. These papers are usually full of advertising at fair rates, only a trifle in advance of papers having a very limited circulation. The other agents and publishers have no established prices, and consequently overcharge if they have an opportunity, but generally take advertising at about twenty per cent. less than usual rates; and the foolish advertiser who gets his advertisements into a score or two of these journals doubtless thinks he is advertising judiciously and cheaply, when in fact he is paying the very dearest price, considering the limited circulation his advertisement obtains. Thus, many business men, though they doubtless find it pays to advertise, even in this class of papers at this low rate, are advertising injudiciously and paying double rates for the circulation they desire to and might obtain by advertising in first class papers, the rates of which are but a trifle higher than those which advertise for such prices as they can obtain. These low price advertising agents work an injury to both publishers and advertisers, and are rarely able to liquidate when the quarterly settlement is due, and their names are bandied about through the press with epithets of well merited contempt.

While the penny-wise style of business referred to pays one class of advertisers very well, it works injury to others who fail to obtain the value of their money. There is hardly any kind of trade extensively carried on in San Francisco that will not pay to advertise throughout the State, to the mutual benefit of the advertiser and publisher; but a want of general information concerning the amount of trade to be expected has established a want of confidence to try. Advertising in the East is more general because statistics of trade and its profits prove its value, almost without trial. The inducements to advertise in this State are no less, as we propose to show by reference to the consumption of goods in this county.

From the Auditor's office we learn that there are no less than two hundred licensed retail dealers in Sierra county, whose annual sales in the aggregate foot up the handsome sum of \$3,500,000, and it is to be presumed that none of these dealers have overstated their sales. To this amount may be added \$1,500,000 worth of goods purchased on private account for miners' winter stores, and for the supply of incorporated companies and quartz mills, making in total a valuable trade of about \$5,000,000 annually.

The wealth and population of a section, and the influence and circulation of an old established paper, determine its value as an advertising medium—a matter never lost sight of by an experienced advertiser.

The *Messenger* is one of the oldest and best established papers in the State, and has always enjoyed an extensive circulation (wholly unaided by party contributions) equaled by no other in this locality at any time during the last ten years, and has entered upon its thirteenth volume with increased subscriptions and extended advertising patronage. It has been twice enlarged since its removal from La Porte to Downieville, in 1864, and now presents more reading space and type than any other weekly local journal in the State (not connected with a daily issue), and more local matter. No business man is without it, and its circulation extends throughout the mines in all the different camps of this county and vicinity, as follows: Forest City, Aleghany, Chips' Flat, Minnesota, American Hill, Sierra Valley, Downieville, Goodyear's Bar, Camptonville, Eureka, Port Wino, La Porte, Sawpit Flat, Gibsonville, Newark, Poker Flat, Howland Flat, Pine Grove, and St. Louis, besides many other smaller camps.

The *Messenger* has an extensive job office, and does the printing and advertising of the county.

Continued Subscriptions.

For the reason that it is not always practicable to have our agent call upon subscribers for a renewal of their subscriptions as soon as their terms expire, we shall, when requested, continue to send the paper until our Collector calls around. This will only apply to old subscribers in the State of California, whose residences are within our regular canvassing routes. If the subscription is not promptly paid when the Canvassing Agent calls, the paper will be immediately stopped, and the bill left with the postmaster or express agent for collection.

It is not our intention to send the paper beyond the time desired by any subscriber, and should we accidentally or inadvertently do so, we shall expect the subscriber to send us written notice to discontinue.

By Law any person taking a paper from the post office is liable for payment. The Courts have decided that removing without giving notice to the publisher, and leaving the paper uncollected for, is *prima facie* evidence of intentional fraud on the part of a subscriber.

No new subscriptions or renewals received without payment in advance.

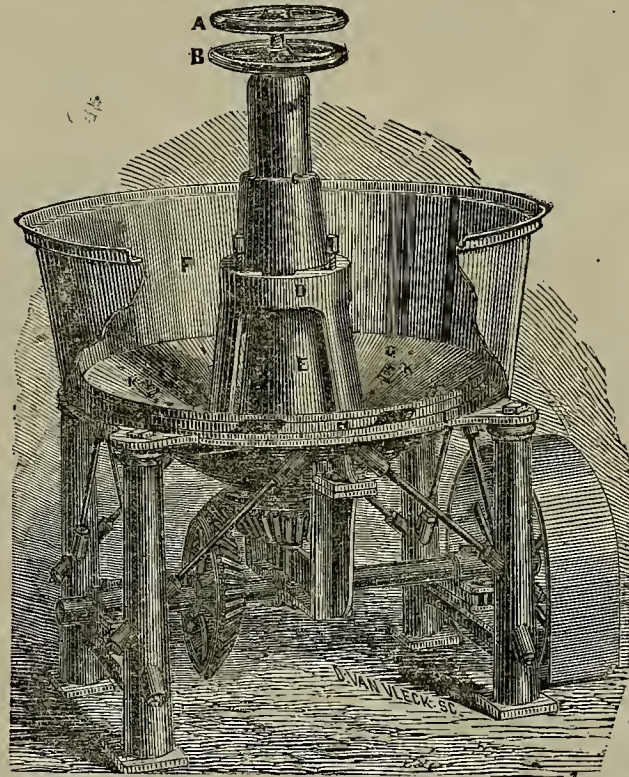
August 1, 1866.

Auction House.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 418 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.



Boiler Makers and Sheet Iron Workers. Mission Street, between Beale and Fremont, San Francisco. N. B.—All kinds of Boiler and Sheet Iron Work executed at the shortest notice, and on the most reasonable terms. MOYNIHAN & AITKEN.

HEPBURN & PETERSON'S PANS AND SEPARATORS. For Reducing and Amalgamating Gold and Silver Ores.



We invite the Mining Public to examine the record of our Machines before adopting any other for producing similar results. They have been in general use for the past three years, during which time they have been repeatedly tried in comparison with every other machine of note, and of a similar nature, and have invariably been adopted in preference; which facts we offer as the most suitable recommendation, and which is attested by the following list of

Principal Mills Using them:

Names of Companies.	Location of Mill.	Names of Companies.	Location of Mill.
GOULD & CURRY.....	Virginia City, Nevada.	TEARLE, ROGERS & CO.....	Silver City, Nevada.
SILVER STATE REDUCTN WKS. Empire City, "		MELVILLE KELSEY.....	Silver City, "
OPHIR.....	Washoe City, "	HUGGIN & FORMAN.....	Silver City, "
EDWARD MCLEAN.....	Silver City, "	YELLOW JACKET.....	Empire City, "
SANTIAGO.....	Zephyr Flat, "	BELDIN & GREGORY.....	Esmeralda, "
RAPHAEL & HUSTED.....	Gold Hill, "	HOCKENDORN.....	Calaveras Co., Cal.
FRENCH & BEESLER.....	Dayton, "	CARSON GREEK.....	Calaveras Co., "
HERMAN, KETSCHER & CO.....	Carson River, "	CROWN LEAD.....	Mariposa Co., "
A. SUTRO.....	Dayton, "	BIG BLUE LEAD.....	Tulare Co., "
DAVIS & BARRON.....	Carson City, "	E. T. STEEN.....	Amador Co., "
PHENIX.....	Silver City, "	EAGLE.....	Owens River, "
CHAS. S. COUVER.....	Silver City, "	IDA MILL.....	Owens River, "
PIONEER.....	Silver City, "	ALACRAN.....	Sonora, Mexico.
L. A. BOOTHIE & CO.....	Virginia City, "	SANTA CLARA.....	Sonora, "
A. DELAND.....	Washoe, "	ROSARIO & CARMAN.....	Sonora, "
SUGAR MILL & MINING CO.....	Gold Hill, "	LIBERTAD.....	Sonora, "
RODGERS & GRISSAM.....	Silver City, "	DON JUAN ROBINSON.....	Sonora, "
ANDERSON & SEAL.....	Washoe, "		

Manufactured at the Principal Foundries in San Francisco. HEPBURN & PETERSON. At the YULCAN IRON WORKS, Nos 137 and 139 First Street, San Francisco.

Blanks, Blank Mining Books, Constitution and By-Laws FOR Mining and Prospecting Companies

Elegantly printed, with care and dispatch, at the office of the Mining and Scientific Press. Orders from the Interior faithfully attended to.

THE MINING PRESS has entered upon its thirteenth volume. It is a valuable publication in its sphere, and its sphere is a large and important one. —[Marysville Appeal.

PATENT BUSINESS. We have lately associated with us in the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner. DEWEY & CO., Patent Solicitors. San Francisco, June, 1866.

THE PRESS is a large, sixteen page paper, and is truly a valuable assistant to the mining interests of the Pacific Coast —[Nye County News.

BANCROFT'S CATALOGUE OF SCIENTIFIC BOOKS.

CONTENTS: I.—Military and Naval Science. II.—Navigation and Shipbuilding. III.—Architecture and Carpentry. IV.—Fine Arts. V.—Chemistry and Electricity. VI.—Mechanical Science. VII.—Applied Mechanics and the Useful Arts. VIII.—Currency, Trade, and Resources. IX.—Mathematics and Engineering. X.—Astronomy. XI.—Geology, Explorations, and Meteorology. XII.—Geology, Mining, Etc. XIII.—Natural History of Animal Kingdom. XIV.—The Vegetable Kingdom. XV.—Agriculture. XVI.—Domestic Arts. XVII.—Amusements, Games, Fortune Telling. XVIII.—Photography. XIX.—Cyclopedias and Dictionaries. XX.—General and Popular Science. XXI.—Miscellaneous Works. The Catalogue will be mailed to any Address upon application.

H. H. BANCROFT & CO., Booksellers and Stationers, San Francisco, Cal.

W. T. GARRATT, City BRASS AND BELL FOUNDER

Cor. Market and First Sts., opposite Oriental Hotel, SAN FRANCISCO. Manufacturer of Brass, Zinc, and Anti-Friction or Babbet Metal Castings; CHURCH and STEAMBOAT BELLS, TAYLOR AND HAND BELLS AND GONGS, FIRE ENGINES, FORCE AND LIFT PUMPS, Steam, Liquor, Soda Oil, Water and Plunge Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles, HYDRAULIC PIPES AND NOZZLES For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal." Highest Market price paid for OLD BELLS, COPPER AND BRASS.

Pacific Map Depot.

A. GENSOUL, PUBLISHER, IMPORTER AND DEALER IN MAPS, ATLASES, Charts, Guide-Books Globes, Books, Stationery, and Fancy Articles, 511 Montgomery street, between Commercial and Sacramento, San Francisco. Agents and Dealers supplied on Liberal Terms.

STATIONERY AND PAPER WAREHOUSE.

JOHN G. HODGE & CO., Nos. 418 and 420 Clay street, San Francisco

Stationery, Blank Books,

SCHOOL BOOKS & CHEAP PUBLICATIONS

Together with Flat Cap, Folio Post, and Ledger Paper, Envelope Paper, Colored Medium, etc. WRAPPING PAPER, PAPER BAGS, ETC

We keep a large stock of the above line of goods, which we offer to the trade at the lowest market rates. Prompt attention given to country orders. Blank Books manufactured to order.

Pacific Mail Steamship Co's THROUGH LINE TO NEW YORK, Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK. On the 10th, 18th and 30th of each month that has 30 days. On the 10th, 19th and 30th of each month that has 31 days. When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding, when the 18th falls on Sunday, they will leave on Monday following. Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco. Departures of 18th or 19th connect with French Transatlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Departure of 10th connects with English steamer for Southampton, and P. R. Co.'s steamer for Central America. Departure of the 30th connects with English steamer for Mexico, the port of the new line. The following Steamships will be dispatched on dates as given below: September 18th—COLORADO..... Captain J. T. Watkins. Connecting with HENRY CHAUNCEY, Capt. Oary. September 29th—SACRAMENTO..... Capt. J. M. Cavery. Connecting with OCEAN QUEEN, Capt. Weir. Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attendance free. These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock. Through Tickets for Liverpool by the Inman Line, can be obtained at office P. M. S. S. Co., San Francisco. For Merchandise and Freight apply to Messrs. WELLS, FARGO & CO. The splendid steamship COLORADO will be dispatched for CHINA on TUESDAY, January 1, 1867. For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets. OLIVER ELDRIDGE, Agent.

Mining AND SCIENTIFIC PRESS.

Terms: One Year, \$5; Six Months, \$3.

Single Copies, Fifteen Cents.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

DEWEY & CO., PUBLISHERS,
And Patent Solicitors.

SAN FRANCISCO, SATURDAY, SEPTEMBER 22, 1866.

VOLUME XIII.
Number 12.

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[Reported for the Mining and Scientific Press.]

California Academy of Natural Sciences.

REGULAR MEETING, Monday, Sept. 17, 1866.

Vice-President Stearns in the Chair.

Nine members present, and Dr. P. Comrie, visitor.

Minutes of previous meeting read and approved.

Messrs. B. P. Avery, Jns. Spiers and B. R. Norton were elected resident members.

Mr. Hanks proposed Mr. Winslow Boynton, and Mr. Bradley nominated Mr. T. C. Leonard for resident membership.

Donations to Library.—Proceedings of the Mannheim Academy, by Dr. Behr.

Mr. Stearns, in behalf of Dr. J. G. Cooper, of Santa Cruz, laid before the Academy a paper upon a new species of *Pedipes*, from San Pedro; also, a paper from Dr. C. A. Canfield, of Monterey, upon a new species of fish of the genus *Deltostoma*. Referred to Publication Committee.

Mr. Falkenau stated some interesting facts in connection with the Spectroscope, its uses and value in a scientific point of view.

Dr. Comrie made some remarks upon glacial indications at Vancouver Island and vicinity. Adjourned. T. H. BLOOMER, Rec. Sec.

THE USE OF THE SYPHON IN MINES.—We are pleased to notice that the communication, with comments, which we gave three weeks since, on the introduction of a syphon into a mine at You Bet, in Nevada county, has called forth several communications, giving the experience of other parties in the use of the syphon for draining mines. Two of these communications were given last week, and three others are given in this issue. It would appear, from these several communications, that the syphon may be advantageously used, under certain circumstances, for raising water from moderate heights. Our correspondents have given in detail their various experiences in introducing this cheap mode of drainage, and their personal cannot fail to prove of much interest and value to others who may be contemplating its introduction, or who may now, for the first time, learn that it is practicable. The subject also furnishes additional proof of the benefit which always accrues to the general mining public from a publication of the experience of individuals, in any particular process or procedure which may be included within the wide range of mining operations. We are always pleased to hear from practical men upon subjects of general, mechanical, mining or scientific interest.

BARREL AMALGAMATION.—By reference to the advertisement of Brodie & Radcliff, which appears to-day in our columns, it will be seen that those using or intending to adopt their improved amalgamating barrel, will pursue an economical course by settling for the royalty prior to the 1st November next, after which day this advance will be 100 per cent. on present charges.

BRODIE'S PATENT WIND BLAST SEPARATOR FOR DRY CRUSHING.

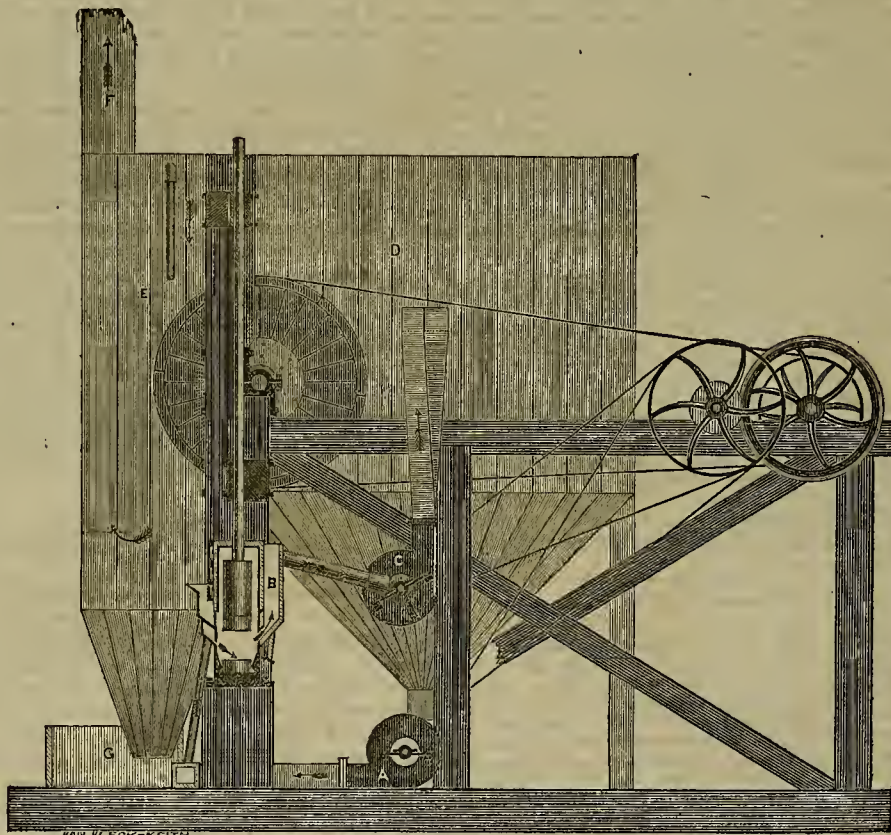
In consequence of the interest created respecting dry crushing, resulting from the reports recently circulated of successful experiments made with dry crushing and superheated steam at Bear Valley, we, this week, present our readers with a sketch and description of what is claimed as one of the most effective dry stamping mills yet known. It was invented, some time since, by Mr. Brodie, a well-known mechanic of this city.

The Patent Wind Blast Separator is an application to a stamp-mill or other crushers, by which the ores are crushed dry, with a large

escape from the crushings to the injury of men or machinery.

Touching the quantity or analogy between dry and wet crushing, it is claimed that more work can be done in a given time by dry than by wet crushing, and to better advantage, as the wealth contained in the ore is under control until it is obtained in the form of amalgam. In wet crushing the muddy water carries off a large portion of the fine gold.

This apparatus has been tried in Mexico and Nevada. In the latter place a 10-stamp mill was erected at the Boston and Nevada mine, Austin Reese River, the millwright of which certified that it crushed, into the finest impalpable powder, thirteen tons of quartz



BRODIE'S PATENT WIND BLAST SEPARATOR FOR DRY CRUSHING.

percentage in favor of dry over wet crushing. The accompanying engraving exhibits a cross section of a battery with the Wind Blast Separator attached, showing the mode of application to any battery or crusher, doing away with the expense and use of screens. Letter A represents a fan to drive a current of air into the battery, raising the fine dust from under the stamps; it is then drawn out through box, B, by a suction fan, C, and passes through pipes into the ore-room, D, where the ore is deposited. The wind created by the fans passes into the dampening chamber, E, where any ore that may escape from room, D, is dampened by a jet of steam, and falls into box, G, which is filled with water; the wind and steam passes out at the chimney, F; the direction of the arrows shows the action of the wind on the crushed ore in its transit from the stamps to the ore room; so it can be seen that none of the ore or dust can

rock in twenty-four hours. We are informed that steam has been employed as above described, for the purpose of dampening the light ore so long ago as 1859.

For further particulars, inquire of Messrs. Brodie & Radcliff, whose advertisement will be found in this paper.

A MECHANICAL STREET SWEEPER has been introduced into this city. It may be described as a kind of a covered wagon, with sets of sweepers ranged diagonally around a central shaft, operated by the wheels of the vehicle. The plan of its operation is to throw the dirt to the side of the street in a winnow, when it can be readily gathered up by a few men with shovels.

STOCKTON FAIR.—Our correspondent furnishes us a good report, too late for this issue. It will appear in our next.

THE SCIENCE OF HANGING.—The Rev. Samuel Houghton, of England, has recently published some remarks in the London *Philosophical Review*, on "Hanging Considered from a Mechanical Point of View," which are worthy of consideration by all humane people. In executing the extreme penalty of the law, every means which science can devise should be employed in rendering the culprit's exit attendant with as little pain as possible. Death by hanging is produced in three ways only. First, By apoplexy, caused by pressure on the jugular vein. Second, By asphyxia, caused by stoppage of the wind-pipe. Third, By the fracture of the vertebral column. In the first two cases death is preceded by terrible convulsions, caused by the cessation of the supply of arterial blood to the vesicles, and lasts from five to forty-five minutes. In the third case, it is instantaneous, painless, and unaccompanied by any convulsive movements.

In England and Scotland, a short drop of only three or four feet is used, which is generally insufficient to fracture the vertebral column, and subjects the criminal to a terrible and protracted death. In Ireland, a longer drop is used, which generally produces instantaneous death. A safe rule for the length of the drop is given, as follows: Divide the weight of the criminal (expressed in pounds) into 2,240 (a ton weight in pounds) and the quotient will give the required length of the rope in feet; thus, a criminal weighing 160 pounds, should be allowed a drop of fourteen feet. A shot attached to the feet of the criminal, by adding to his weight, might allow of a decrease in the fall, when desirable.

The American method generally adopted at the present time, is a sudden lifting of the criminal into the air, by means of a heavy weight attached to the opposite end of the rope, which should pass over a pulley placed vertically over his head. This method is highly approved of by Mr. Houghton, as producing less suffering than the "long drop;" seeing, that although death by the long drop is instantaneous, upon the occurrence of the actual shock, yet there is an interval of a second or so between the commencement of the fall and the shock, in which the criminal must suffer an immense amount of mental agony which should be spared him, and which is altogether avoided by the American practice.

Hops formed quite a prominent feature in the late Fair at Sacramento. The quality of California hops is universally conceded to be superior to any that can be imported. Their cultivation may now be considered as among the most profitable of our agricultural speculations. It is stated that Wilson Flint has raised on his farm, near Sacramento, 25,000 pounds of hops this year. They are worth eighty cents per pound in this city.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Notes on the Chief Gold Districts Throughout the World.

BY PROFESSOR ROWLANDSON, F. G. S. L.

[Continued from Page 162.]

AUSTRALIA, NEW ZEALAND, ETC.

EDITORS PRESS:—The third epoch comprises the strata which contains the Australian coal beds. It overlies a coarse sandstone containing spirifer and conularia, a conglomerate forming the immediate floor. The fauna and flora of this epoch will be more fully alluded to subsequently. The fourth epoch consists of loose sand and pebbles, drift, elevated beaches, etc., amongst which are the gravels and clays of the "gold diggings," though at the time Count Strzelecki published his "description," the existence of valuable gold fields in Australia was unknown. Amongst the most remarkable of these accumulations is the osseous breccia, found in caves in Wellington Valley, consisting of detached and fragmentary bones, some of which are new to naturalists, as the *Diprotodon*, an animal described by Owen, as participating in the mixed character of the existing Wombat, Kangaroo and Tapir; and the *Nototherium*, which the same high authority assigns to a class of ancient vegetable-feeding marsupials, which attained the size of the modern Rhinoceros. Other remains found in these bone caves, as the *Macropus*, *Hypsiprimum*, *Pharcoloneys*, *Dasyurus*, *Thylacinus*, have been described as merely presenting typical forms of existing species. If the statement made by Count S. is subsequently confirmed, namely, that the entire thickness of the stratified rocks in New South Wales, including mica schist in the list, does not exceed 2,200 feet, in which the sandstone alone (above the coal) is 1,400 feet, the fact would account for many seeming geological anomalies.

It may be well to remark that this extremely shallow character of the sedimentary strata in New South Wales may possibly account for the fact stated by Mr. Selwyn, that he has determined sixty species of Silurian fossils, including graptolites, trilobites and lingulae, amongst the slaty rocks of Victoria, and it is presumed contiguous to its celebrated gold fields. Mr. S. has also given it as his opinion that there are three gold drifts in Victoria, formed at three different epochs, one of which he ascribes to as ancient a period as the Miocene of the tertiary. How far this theory will be supported by subsequent observations it is impossible to say, in the present state of information; if eventually proved to be correct, the writer of these articles will be compelled, in some degree, to modify his opinion as to the age in which gold veins were formed in many parts of the earth; nevertheless, he cannot accede to the probability that Mr. Selwyn's opinion is correct—that the gold quartz veins of Victoria are older than the granite; at all events, in any material degree, the conclusion of Mr. S. is probably based on the belief which he has expressed, that the auriferous veins of Victoria are confined to rocks of the Paleozoic age. This may be the case in many or all instances, yet, the formation of the gold veins may be long subsequent to the rocks inclosing them, and synchronous with, and also emanating from the same causes which formed and erupted the granite, etc.

FOSSIL BOTANY OF AUSTRALIA.

The fossil flora of Australia, collected by Count S., was but of a meager character, so far as numbers were concerned, and are referable only to two distinct geological epochs: first, that of the deposition of coal and superincumbent sandstone, and second, that of the yellow (tertiary) limestone around Hobart Town, which contain impressions of leaves of an unknown vegetation, accompanied by a *Helic* and *Bulimus*, not identified with any existing forms.

They were submitted to Professor Morris, of University College, London, whose remarks thereon follow: "In reviewing the few species of the ancient flora that have been hitherto

collected from the carboniferous deposits of Australia, including therein the fossil plants from the basin of the Hunter in New South Wales, and those from the Jerusalem basin in Van Dieman's Land, we at once perceive the interesting fact, that, although limited as the species are in number, there is no trace of any of those remarkable genera, so characteristic of, and so abundant in the strata of the European and American coal fields, such as *Lepidodendron*, *Sigillaria*, *Stigmaria*, *Calamites*, and *Conifera*."

The basins named, if contemporaneous, are characterized by different flora; no species having been found common to the two deposits. The basin of the Hunter contains *Phyllocladus australis*, *Glossopteris browniana*, and some other species. In Van Dieman's Land are found three or four species belonging to the genera—*Sphenopteris* and *Pecopteris* and a *Zeugophyllites*, associated with some large fragments of stems of too imperfect preservation to be defined. The *Zeugophyllites* and certain forms of *Pecopteris* were collected in Van Dieman's Land, one of the latter being closely allied to the oolitic species of Europe, and another bearing a strong resemblance to an *Odonopteris*, found in the Permian System of Russia. Professor M. further remarks: "These few observations partly lead us to infer that the flora of the Southern hemisphere was perfectly distinct in its facies from the Northern, at the carboniferous period. Just as at the present time, the modern flora of the same continent presents a striking difference to that of other portions of the globe; and this appears the more remarkable, as the species constituting the fauna of the Australian Ocean, anterior to that period, contains many forms, which, if not perfectly identical, are at least the representative ones of those of the northern region." Professor M. makes a comparison too lengthy to extract between the Australian carboniferous period and that of the Burman coal field of Hindostan, assigning an identity of age to the two, and assuming that the conditions of the flora of some portions of India and Australia were contemporaneous, or, if not identical, not greatly dissimilar, and concludes by illustrating a comparison between species found in the oolite of England with that of Australia, by which he remarks that a striking analogy of form is perceptible.

In the concluding chapter we shall again have occasion to refer to this part of the subject. It may, however, be here stated that in the course of the years 1831 and 1832 the writer had various conversations on this subject with Professor Morris, as, also, with the late Professor Edward Forbes, in the course of which Professor M. stated that subsequent consideration had induced him to incline to the opinion that the carboniferous strata of Australia belonged rather to the secondary than the true carboniferous period. The late Professor E. Forbes held even more decided opinions on this point, though he did not deem the evidence at all conclusive. These points will be treated hereafter.

PALEONTOLOGY OF AUSTRALIA AND VAN DIEMAN'S LAND.

So far as information has been received by the writer, the fossil fauna of Australia is somewhat remarkable for the absence of certain genera, which are found in northern deposits of presumed coeval time. It is not known to the writer that any traces have been found of *Nautilus*, *Clymenia* or *Goniatites*; *Trilobites* are rare, and the crustacean family is represented by two or three species belonging to cypridiform genera. *Bellerophon* and *Conularia*, seven or eight varieties of spirifer, two or three of which assimilate to the gibbose species productus, are not unfrequent, presenting a facies resembling that assigned to the carboniferous era of the northern hemisphere. The Silurian fossils found by Mr. Selwyn have already been noticed.

NEW ZEALAND.

Nothing is known of the geology of this gold region, further than that as with other gold, and it may be stated, also, perhaps, with only one exception, the remark applies to other metalliferous districts, the gold fields of this island are associated with granitic and similar outbursts.

How to KEEP SHEEP FROM DOGS.—It is stated that if sheep are kept in the same lot with cows or fat cattle, no dog will disturb them. As soon as the dogs approach the sheep, they run to the cattle who drive the dogs off. A farmer for thirty years, by adopting this plan, never lost a sheep by dogs.

To some men it is indispensable to be worth money, for without it they would be worth nothing.

[Written for the Mining and Scientific Press.]

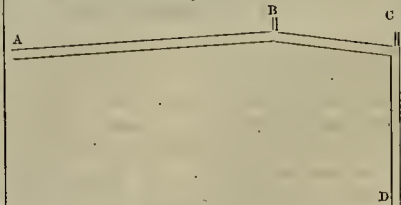
More About the Use of the Syphon in Mines.

EDITORS PRESS:—I have read the communication from "You Bet," and your comments thereon, concerning a syphon in the mine of Messrs. Neece & West. After a good deal of experience in that line, I have arrived at the following conclusions, to which you and your readers are welcome, to be taken for what they are worth: At this altitude the syphon, when properly laid down, will do pretty good work in raising water as high as twenty-five feet, assuming that there is good air in the mine. I give the smaller sizes of lead pipe the decided preference. One-inch pipe I have found to give the best satisfaction, with a short piece, say of twenty-five feet, of larger pipe on the inside end. Where a pipe of this size will not free the mine from water, I would prefer two or more to a larger one. An important preliminary step is to have a properly-constructed reservoir—the larger the better—the water in which should be disturbed as little as possible. Where new pipe is used, which, of course, is to be preferred, when it can be done, take the reels containing the pipe to the mouth of the tunnel. Take one reel at a time on the truck of a common hand-car, and commence laying the pipe from the inside, unwinding the pipe from the reel as the car is pushed towards the mouth of the tunnel; have no more joints than are necessary; extend the pipe so far outside and below the mouth of the tunnel as may be necessary to have the outer arm the longer and lower. Have no funnel or other fixtures at the summit, but within a few feet of the outer end solder in a gauge-cock, and place a suction pump at the extreme lower end, to which attach the pipe with a coupling. In starting the water for the first time, it may be necessary to have a small force-pump on the inside, to assist in filling the pipe, proper precautions being taken to not hurt the pipe. After starting, inclose the inner end with an ordinary five-gallon kerosene can, punched full of small holes, which must be seen to and kept open. Regulate the flow with the gauge-cock, it being important, as you suggest, to keep the inner end constantly submerged some distance below the surface. By making the suction pump solid, and allowing the pipe to remain permanently coupled to it, when the stream slackens up too much, it will be a small job to start it up with a small turn at the pump. I will close by saying, in the laying of the pipe avoid all acute curves, and see that it is properly guarded from "jamming." C. J. H.

Forest Hill, September, 1866.

A letter, dated Gold Hill, Nevada, Sept. 6, 1866, says:

In a number of your paper of the 1st inst., I notice an inquiry in regard to the use of syphons in mines. During my experience, I have had occasion to use them on two different occasions and in different mines. The first one was 675 feet long, to draw water from a drift which was run with a down grade of two feet in 100. When in with the drift about 500 feet we cut water, and were obliged to use a syphon to free the drift. The following will give you an idea of its workings:



A was the end, afterward in sump, to which was attached a small basket to keep out gravel. B, the highest point, about fourteen feet above A; the top of the projection, B, was about twenty-four inches above the pipe. We filled it at this point with a funnel, a person holding his hand over the end at A. C was another upright with stop-cock, used as a vent for the air to escape when filling. D was the discharge, eighty feet below drift, level with stop-cock, to work with wire from drift. When the syphon was full, we closed the cocks at B; the person at C tapped on the pipe for man at

A to look out; the cock at D was then opened, when the man at A would feel his hand sucked in the pipes, upon which he withdrew his hand, keeping the pipe under water and putting on the basket. We ran the drift some 100 feet further by adding a pipe as requisite. Sometimes the syphon would start without any trouble; at other times, some five or seven fillings were made before it would work. Persons posted on hydraulics told me a pump would be of use only at the point D, where we could not use it, as the cage was constantly passing up and down the shaft. One day my temper was well tried, when I determined to experiment. I purchased a small two-inch Douglas pump (the pipe of syphon was one inch and a half), put the pump on at point B, shut cock at D, and left A open in water. Told a man to shut cock C; pumped myself for about one half hour and no success; could not see why should not raise water; set man to pump and examined cock C; found it leaking air—it did not shut tight; afterwards luted with clay, shut the cock and filled with water, and pumped again; kept increasing the vacuum, and in a moment had full head of water; closed cock under pump at B, and opened cock D, when it went well and would run for weeks. When it lost water, I could start it in ten minutes with the pump. The syphon contained numerous flexures, similar to the one you describe at Neece & West's mine.

Still another letter, dated Mokelumne Hill, Sept. 9th, says:

EDITORS PRESS:—As you ask for information in regard to the practical working of syphons, I take the liberty of addressing you, and will state the following as a fact: A syphon will work from one to five days by attaching air-chambers at proper intervals over the pipe. The number and size of chambers will govern the working of the syphon.

To illustrate, I will use the diagrams in your issue of September 1st. Attach air-chamber No. 1 at the curve exactly over the well; chamber No. 2, 225 feet from the well; No. 3, 275 feet from the well. This will place the third chamber within twenty-five feet of the last section, which has a good fall for 100 feet. To exhausting the air from the pipe to start the syphon, a portion of the air in the chambers is exhausted at the same time, and the water, as it passes along the pipe, fills the space of exhausted air in the chambers. Now, if any air in the form of air-bubbles should enter the pipe with the water, it will most certainly take the place of the water in air-chambers until they become overcharged, when the water is pressed back and stops running. Perhaps this may not be the correct theory. I give you the facts, in my experience, as regards the working syphons with air-chambers. The form or shape of chambers is merely a matter of taste; but for convenience of attaching them to the pipe, I usually make them funnel-shaped. This shape gives the workman that attaches the chambers to the pipe a fair chance to see what he is about, and there is no fear of making a leaking joint. I make them of galvanized iron.

Mokelumne Hill, Sept. 9th, 1866. H. R.

FALL RIVER will soon take the lead of Lowell as a manufacturing city. It is said that when the mills now in process of erection there, are completed, it will have more spindles than Lowell, and be the first city in America in the amount of cotton and woolen goods manufactured. A large part of the machinery is moved by steam. The natural advantages of Fall River as a manufacturing city, are not excelled by any city in the world.

LARGE ISSUE OF PATENTS.—The number of patents issued for the week ending August 14th, was 275, the greatest number ever issued from the U. S. Patent Office in any one week. On Tuesday, the 7th of the same month, 92 patents were issued, the largest ever issued on any single day. The inventive genius of the country was never more active than at the present time.

A PATENT fish scaler is the latest Connecticut invention.

Mechanical.

A New Material for Roofing.

The production of a cheap, incombustible and durable roofing material is a matter of great public importance. It is a question about which much has been said and written, and a large amount of money and time has been spent in aiming at a satisfactory solution of the problem. The value of a really safe and reliable substitute for the numerous unsafe and unreliable materials so generally employed in this city, could scarcely be calculated. Our long, dry summers, with high winds, render a combustible material highly dangerous; and the great extremes of contraction and expansion between summer and winter, makes the nuisance of "patching" a matter of frequent necessity, and often a most ineffectual remedy against a pluvial interference with one's domestic arrangement, household goods and perishable stores.

An interesting discovery in this direction has been made by Wm. L. Potter, of Clifton Park, N. Y., and by his permission was announced to the world about a year ago, through the Farmers' Club of the same State. Solon Robinson, of Ohio, having carefully examined into the merits of the discovery, also gave the weight of his influence in its favor; and in a few months, according to the report which has reached us, the company which had been organized in New York city for its manufacture, was completely overrun with orders.

The material employed is common slate rock ground to a fine powder, and in that state mixed with mastic or any bituminous substance to the consistency of a thick paint, in which condition it is applied to canvass, cloth, paper, felt, or any similar substance. It soon hardens, and by the action of the elements or by means of chemical action within itself, becomes so indurated as to be almost as impervious to the action of fire or water, as slate rock itself, though less brittle.

Slate-stone and coal-tar are too well known to require a description. Associated in geology—perhaps originally combined, an affinity is found to exist, and the slate being pulverized and brought into contact, a union is formed of so firm a nature as to yield only to extreme heat or great violence.

A material—at once cheap and abundant in every civilized country on the globe, so simple in preparation and application that common sense is the only qualification for using it. A mastic—it adapts itself to every shape and condition. Adhesive—it needs no nails or hooks to hold it. Non-combustible—it is not the means of destroying your property, but of protecting it. Impervious—water, nor even steam, can penetrate or dissolve it. Repairable—"a little more of the same sort" and a brush or trowel restores it from accidental injuries. Renewable—the waste from the friction of falling water may be returned once in ten or twenty years forever by the use of the brush.

This mastic, it will be readily inferred, is a very different material from the substance usually employed in this city, which consists of a mixture of asphaltum and coarse waterworn gravel. There is in this new preparation an intimate mixing and combining of the material, by having the slate first pulverized to an impalpable powder, and in that state brought into contact with the adhesive substance.

There are various other uses to which this material has been applied, such as cement for cisterns, tanks, cellar floors, leaky hydrants, pipes, pumps, etc. Inkstands have been made of it while in a plastic state, which have become as hard as stone. It has been applied as a cheap paint to out-buildings, fences, etc., where it prevents decay. Experiments with this new material were in progress for ten or twelve years, before it was fully made public, a year ago last June.

A USEFUL CEMENT is made by taking two parts of finely sifted unoxidized iron filings, mixing them with one part of perfectly dry and finely powdered loam, and kneading the mixture with strong vinegar until a perfectly homogeneous plastic mass is formed, when the cement is ready for use. It must be made as wanted, for it quickly hardens, and once set is never fit for use again. The cement is said to resist fire and water.

OBSERVATIONS made upon twenty-six coke-burning engines, upon the London and South-Western Railway, showed that the duration of a set of brass tubes of No. 13 gauge was from 65,000 to 127,080 miles, averaging 94,518 miles.

WELDING BOILER PLATES.—A cylindrical boiler, four feet in diameter, with an internal flue, has recently been made in England, with welded joints throughout, not one rivet being used. The plates are of 7-16 in. iron, and the boiler was tested without leakage to a pressure of 150 lbs. per square inch. Mr. Hackworth, an English mechanic, constructed a locomotive boiler some sixteen years ago, the longitudinal joints of which were welded instead of being riveted.

The larriving of boiler plates so frequently observed in English locomotives, is unknown in this country. The very thin iron used in the construction of boilers, would not admit of such a practice. The English boiler makers reduce the strength of the entire boiler to what would be equal to iron of the thickness of the plates at the lines of the furrows. All the excess of thickness in the plates above the parts at those reduced lines is so much iron worse than wasted.

WATER AS A LUBRICATOR.—In an issue about a year since, we gave a detailed account of some experiments in the use of water as a lubricator. We find the following paragraph in relation to the same matter in the London Mining Journal:

The North-Eastern Railway Company's carriage fitted with Aert's water-box, on Sept. 4, last year, has been running ever since between Newcastle-on-Tyne and Normanton; and Mr. Pelsenaire, the representative of the inventors in this country, writes that during that time the boxes have required no repairs, nor has anything but water been used. Under the same conditions, the second carriage has been running six months. The experiment has been made under the control of Mr. Edward Fletcher, the engineer of the company, and Mr. Pelsenaire has offered to furnish 5,000 or 8,000 boxes at 4*l.* 10*s.* per box, royalty included, or to receive 1*l.* 10*s.* per box royalty, in the event of this company undertaking to make their own boxes. If the system be admitted to be good, and the refusal is only based on the cost of applying it, that fact should be distinctly stated by the railway authorities, as their silence must be very prejudicial to those interested in the invention, by preventing them from finding another market.

A USEFUL CHART.—Mr. Charles Kinkel, of New York, has published a diagram for ascertaining the width of helts to drive any given machine. This diagram is accurately drawn, and is accompanied by an explanation of its use. From it any one can tell by simple arithmetic what size of belt he requires to do his work. We have not seen the chart, and know nothing of the principle involved.

A CHANCE FOR INVENTORS.—A premium has been offered by the Industrial Society of Amiens, in the following terms: The proprietors of steam engines are in want of a water meter which will indicate exactly the quantity of water injected into the boiler, whatever be the pressure. This apparatus must be one easily set up, not subject to get out of order, and capable of registering the quantity of water to within two per cent. of the actual volume. It is not a memoir that the society wishes for, but an apparatus in working order on which experiments can be made; and if a water meter be presented appearing to be of practical utility, the society will use every effort in its power to promulgate the use of the contrivance. The meters to be experimented on should be sent to the office of the society before March 1st, 1867.

In the case of a fatal boiler explosion which occurred at Toronto, Canada, in 1857, the coroner's jury stated in their verdict, that the introduction of spirits of wine, oatmeal, and sal ammoniac into the boiler, for the purpose of removing the scale, had caused the water to foam, thereby deceiving the firemen as to the true water-level, and thus leading to the explosion.

CAREFUL observations have shown that the temperature in the smoke-boxes of tubular marine boilers is greater at the base of the chimney than opposite the ends of the tubes. With a temperature of 650 degrees, opposite the tube ends, there are often 1,000 degrees in the upper part of the up-take.

MR. DEWANCE found that the square heads of stay bolts, when projecting $2\frac{1}{2}$ inches into locomotive fire-boxes, burned off to $1\frac{1}{4}$ inches, at which projection they remained.

THE "split bridge" for the admission of air at the back of steam boiler furnaces was invented by Josiah Parkes, in 1820.

Scientific Miscellany.

A New star—Remarkable Developments.

What is supposed to be a new star has recently been discovered in the constellation of the Northern Crown. The star was first seen on this continent on the 12th of May, by a pupil of the Friend's High School, in Philadelphia. It was also seen on the same night by Prof. Tutweiler of Havana, Green county, Georgia. It was seen in Boston on the 14th. Each observation was unknown to and independent of the other. It was seen on the 13th of May at Rochefort, France, and on the 12th in England, by Mr. Birmingham of 'Eum. The difference of time between England and the United States, gives to this latter gentleman the honor of priority of discovery.

The great number of points at which this star was almost simultaneously detected, as a stranger to our planet, shows how closely the heavens are watched, and how familiar, even to amateurs, are the principal stars visible to the eye.

The star, when first seen, was of about the second magnitude; but it rapidly, and at the same time uniformly receded in brilliancy, until at last accounts, it had become reduced to about the sixth in point of magnitude.

The most important observations made with regard to this star have been the development brought out by the spectroscopic, applied to it by Mr. Higgings, of the Royal Astronomical Society of England, who kept a constant watch of it from the 16th to the 21st of May, during which time it passed through some most extraordinary phases. When first seen, it was a bright star of nearly the second magnitude; on the 15th and 16th it had assumed a nebulous appearance with a central nucleus; on the 17th and 18th this nebulosity had entirely disappeared. What strange, what stupendous changes must have been wrought in that distant orb, within those five or six days!

A few years ago, we had no means of even the most distant guessing at the nature of these changes. Of late, however, the genius and scientific researches of man have placed within the hands of the astronomer a curious instrument which is able to detect, with almost unerring certainty, the constituents of all incandescent or burning bodies, which may be brought within the range of observation. This singular instrument is the spectroscopic, which, in the hands of Mr. Higgings, and applied to this remarkable star, has been made to develop some most wonderful phenomena in scientific researches, and has led astronomers to most unexpected conclusions with regard to the physical constitution and condition of our new heavenly visitor.

It has been ascertained that the light of this star is compound, and emanates from two distinct sources, each of which forms its own spectrum. The principal spectrum is analogous to that of the sun, and is derived from a light emitted by an incandescent solid or liquid body, but which has suffered partial absorption by passing through an atmosphere of vapors existing at a temperature lower than that of the central and more dense incandescent body.

The secondary spectrum is formed by a light which must be emitted from matter in a state of gas—undoubtedly the gas surrounding the incandescent nucleus already alluded to. On the 17th of May, this secondary spectrum gave the most unmistakable evidence of burning hydrogen, produced by the induction spark. This appearance continued up to the latest reports—the 21st of May—the only changes being a gradual reduction in brilliancy.

"The sudden blazing forth of this star, and the subsequent rapid fading away of its light," says the observer in his communication to the Royal Astronomical Society, "suggests the rather bold speculation that, in consequence of some great internal convulsion, a large volume of hydrogen and other gases were evolved. The hydrogen, by its combination with some other element, (the spectra of which do not coincide with those of oxygen) giving out the light represented by the bright lines, and at

the same time heating to a point of vivid incandescence this solid matter of the photosphere. * * * These and other important observations we have made, suggest that hydrogen probably plays an important part in the changes and physical differences of this stars. * * * On the 18th, I several times received the impression of a bluish tinge, as if the yellow of the star were seen through an overlying film of blue tint."

Another astronomer expresses the opinion that this star will turn out to be a *variable* one of long and irregular period, instead of a new one.

THE SUFFOCATION OF FIRE.—One of the most notable instances of extinguishing a fire which could not be reached by water was that of a coal mine in Scotland, in 1834. It had been burning thirty years, and huffed all efforts to extinguish it. Mr. Goldsworthy Garney, who was distinguished for the application of the steam jet for ventilating mines, was asked if he could extinguish it. He undertook the work. He covered all the openings of the mine, leaving only two holes, into one of which he forced steam, mingled with the products of the combustion of a coke fire, which generated impure carbonic acid and nitrogen. In six weeks the fire was extinguished, but then a new difficulty presented itself—how to cool the heated mine, so that when fresh air was re-admitted, combustion would not again begin. This was, however, effected, by mixing a spray of water with the jet of suffocating gas. A process like this would instantly extinguish any fire, where the air can be kept out, and if the gas was well purified, it would not soil goods which might be exposed to its influences.

LINE OF THE SOLAR SPECTRUM.—Many years ago Brewster discovered in the solar spectrum certain dark bands which become more and more marked as the sun descends. These bands have been resolved into fine and well-defined lines, visible in different degrees, at all heights of the sun. They are now supposed to be visible, only by reason of our atmosphere, or by the presence of the vapor of water in it. At a height of 2,682 feet in Switzerland they are much less visible than on the plain. What seems a further and conclusive proof that the cause of these lines resides in our atmosphere is, that when at that height a bonfire was examined *near by*, the spectrum was continuous, but when the same flame was examined *from a distance*, they were very plain.

A NEWLY DISCOVERED CHARACTERISTIC OF SULPHO-CYANIDE OF AMMONIUM.—The London *Journal of Science* says that a notice of an interesting property of sulpho-cyanide of ammonium has been published by Mr. F. Cowles. He finds that when dissolved in water this salt produces intense cold; i.e. a short time the atmospheric moisture hanging deposited like hoarfrost on the sides of the vessel.

This led him to try a few experiments with weighed quantities of water and of the salt. From a few trials with different proportions, it appeared that the mixture of equal parts by weight gave the most intense cold. By mixing 1,368 grains of the salt with its weight of water at 17° C., a cold of 12° C. was obtained. The temperature of the atmosphere at the time of the experiment was the same as that of the water employed.

INTERESTING EXPERIMENT.—M. Courdehoy introduces an electro-magnet into the circuit of a galvanic pile, and breaking the circuit, places the ends of the two conducting wires, separated one from the other, in a box containing metallic filings. If now one of the conducting wires he slowly raised, a small chain, consisting of the cohering fragments, will be drawn out, every particle in the box adhering.

EGGS.—Some ova or eggs are so small as to be wholly indistinguishable by the eye, while M. Geoffroy de St. Hilaire, in 1854, exhibited to the French Academy some eggs of a bird which formerly lived in Madagascar, the largest of which was over one foot long, and nearly as wide. This egg would hold nine quarts.

SCHONBEIN states that a weak solution of peroxide of hydrogen may be prepared by shaking violently for a few seconds amalgamated granulated zinc with a little distilled water contained in a large bottle. Oxides of zinc and peroxide of hydrogen are formed, but no zinc or mercury is dissolved.

It is stated that a few drops of a solution of permanganate of lime, added night and morning to breeding tanks, sweetens water, supplies oxygen and thus diminishes the mortality in fish hatching.

THE motion of locomotive engines upon the rails is believed to assist materially in liberating steam generated in the lower parts of the boiler, and thus in maintaining a proper circulation of water.

TO INVENTORS

ON THE

Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

Self-Evident Facts.

Having had large experience, and gratifying success with the great variety of cases emanating on this coast, we feel confident of our abilities to assist inventors in patenting their inventions, saving them from vexatious delays, and from receiving worthless papers by reason of imperfect preparation of their claims before being sent to the Patent Office.

The branch of Patent Law is of itself a SPECIALTY of legal jurisprudence; or, as Mr. Phillips, an eminent Patent lawyer, justly remarked: "The metaphysics of the law."

In early days but little preparation was needed, but ordinary skill required to obtain a patent; but now, by reason of the multiplicity of inventions, and the numerous acts of Congress, found necessary to protect the inventor while the patent lasts, and to do justice to the people after it expires, the utmost care and skill are requisite in managing cases and obtaining a patent that will be of real value to the Patentee, and stand the test of passing through the legal ordeal of an infringement suit.

The general practice of the Patent office regarding the examination or issue of Letters Patent for inventions has not been materially changed for many years, yet there have been amendments added to the laws of 1861, 1863 and 1866, and which it is necessary for all parties managing an application to be conversant with. Old inventors invariably advise the employment of none but agents of responsibility and experience. As agents with such qualifications, we solicit your patronage.

Confidential Advice.

Those who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to see them in person at our office, or to advise them by mail, or through the MINING AND SCIENTIFIC PRESS. In all cases they may expect from us an honest opinion. For these consultations, opinion and advice we make no charge. A pen-and-ink sketch and description of the invention should be sent together with a stamp for return postage. Write plain, do not use pencil or pale ink; be brief.

Remember all business committed to our care, and all consultations, are kept by us secret and strictly confidential. Our permanent business interests demand, as it were, a sacred compliance with our obligations as solicitors, and in reference to our strict fidelity in this respect we refer to one and all of the hundreds of inventors and patentees on this coast who have patronized us.

Letters Patent.

A patent is an open letter, embodying all the language of an inventor or his agent, contained in the specification, without alteration, and is granted to citizens of the United States, or those who have declared their intention of becoming such, and is signed by the Secretary of the Interior and the Commissioner of Patents, with the seal of the Patent Office affixed. Its jurisdiction is for the whole United States, for the term of seventeen years.

A patent right is personal property, and is assignable, but cannot be seized and sold on execution.

What Claims can be Patented?

A knowledge of Ancient and Modern Mechanics and familiarity with American and Foreign patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service—and yet it can never be positively determined except by presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings and payment of the first government fees.

Steps Necessary to Procure a Patent.

The first thing required is a model, if your invention can be represented by one. It is not only immediately necessary in preparing the papers, but the law demands that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions. A less size model will answer when more convenient. It should be neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., Mining and Scientific Press, San Francisco. Prepay expenses and send express receipt to us by mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with the model, the inventor should send us the first installment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance, stating the name and address of the sender. On the receipt of the model and Government first fee of \$15 in currency, the case is duly registered on our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued the Government last fee of \$20 in currency will be required. The law states that every patent shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to the applicant or his agent. And if the final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless it is one of great complication, as the business can be well done by correspondence.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when the case is conducted at our agency, is three months. We frequently get them through in less time; but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Saving of Time.

In urgent cases for an immediate patent, persons can deposit the amount of the last fees with us, in San Francisco, and have our Washington agent procure the issue of the papers as soon as granted, saving the two or three months time which would otherwise be required for the inventor to receive notice and then forward the money. Money advanced for this purpose will be returned, should the application be rejected. By adopting this course, we are enabled, with our other advantages, to secure the receipt of patent papers to inventors on this Coast, at least four or five months sooner than can be done through agents in the East, without the applicant going to the hazardous expense of sending on the last fee before it is known whether the patent will be granted.

Expense of Applying for Patent.

The Government fee, on filing an application for a patent in the United States, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded. English, French, Austrian, Prussian, Spanish, and inventors of every nationality, may now obtain patents in the United States upon the same terms as our citizens. The only discrimination made is against subjects of governments that discriminate against the inhabitants of the United States.

To the foregoing official fees must be added fees for preparing the various documents and expense of drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, varies from \$20 to \$40. Following is the list of Government fees:

On every caveat.....	\$10
On every application for a patent, for seventeen years.....	15
On every application for a design, for 3 years and 6 mos.....	15
On every application for a design, for seven years.....	10
On every application for a design, for fourteen years.....	30
On issuing each original patent.....	20
On filing a disclaimer.....	10
On every application for a re-issue.....	30
On every additional patent granted on a re-issue.....	30
On every application for an extension.....	50
On the grant of every extension.....	50
On appeal to the Examiners-in-Chief.....	10
On appeal to the Commissioner from Examiners-in-Chief.....	20
On every appeal to the Judges of Circuit Court, D. C.....	25

Caveats.

A caveat is a description of the invention designed to be patented, lodged in the Patent Office before the patent is applied for, and while the inventor is perfecting his design. When properly made, it operates as a bar to applications respecting the same invention from any other quarter; but when improperly done, it is inoperative by reason of such defect. The Patent Office always returns a receipt for caveat papers with a copy of the laws governing the same, but does not seek to point out its incorrectness, unless there be some glaring defect.

If worth filing at all, these cases should be prepared with very great care and caution.

One inventor on this Coast, who had filed a caveat by an attorney, was, sometime afterward, surprised to find that his invention, which was a very important one, had been patented and was being brought out by an eastern company with a capital of more than a million of dollars. Upon inquiring at the Patent Office, he was informed that his caveat was inoperative by reason of imperfections and his not having complied with the law in that case as made and provided.

Our fee for the service varies from \$10 to \$20. The Government fee, under the new law, is reduced to ten dollars. This latter sum does not now apply, as heretofore, as part of the fee on presenting an application for a patent.

Inventors will oftentimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat papers, we only require a sketch and description of the invention; no model being necessary.

If an inventor publicly uses and sells his invention, prior to making application for a patent, he cannot, afterward, prevent others from doing the same thing; and should any party put the invention into use, before such application for a patent is made, they could continue to use the specific machine or composition of matter after the patent is issued to another. Filing a caveat does not give the right to affix the words, "Patented," or "Patent applied for."

Patent Rejections.

First. Refusals are always made by the Patent Office if there is any informality in the specification, or if it does not contain the entire subject matter of the invention, and is not properly arranged and stumped. A slight omission often proves fatal.

Second. If the drawings are defective, and are not executed in an artistic manner in India ink, and on sheets of the required size, they are subject to rejection.

Third. Applications are always rejected where the claims conflict with others already patented. If the rejection should be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case.

For the prosecution of such cases, obtaining references, making arguments, and personally attending to explain the case (through our agent in Washington), we charge no second fee, as is the case with some agencies, but attend to the business till finally allowed or rejected, without extra charge, beyond the Government fee.

Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unsurpassed facilities in securing favorable results. We have been successful in securing Letters Patent in many such cases. Our terms are very moderate.

Advantages to Patrons of Our Agency.

Some of the advantages to be obtained by patronizing us, may be enumerated as follows:

1. Inventors on this Coast having their applications for patents made out through our agency can sign their papers at once, and thus secure their rights at least three months sooner than by trusting the same to distant agencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific Coast, they should be properly brought out here, which can be accomplished (if the invention is a meritorious one) by illustrating the subject, with a careful description, in the columns of the "Mining and Scientific Press," free of charge; the inventor paying simply for the engraving, which will be executed at a moderate charge. The same cuts can be subsequently used for hooks, letters, or circulars. In a word, we are determined to make it of decided interest for every inventor on this Coast to patronize home talent and enterprise.

3. Most inventions on this Coast are for objects and purposes but little understood by parties at Washington or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal, verbal explanation is oftentimes of important service, and enables us to be more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions, also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

Dangers of Delay.

Situated so remote from the seat of Government, delays are even more dangerous to the inventors of the Pacific Coast than to applicants in the Eastern States. Valuable patents may be lost by the extra time consumed in transmitting specifications from Eastern agencies back to this Coast for the signature of the inventor, or by reason of return for amendment when addressed directly by the inventor to the Government.

Re-Issues.

When, through "inadvertence, accident, or mistake," an insufficient or defective patent has been issued, the defects in the Specification and Claims can be cured by a re-issue. In order to obtain this, the inventor, or the holders of the patent, must surrender the patent, and file an amended specification and drawings, and a statement specifying the ground for asking for a re-issue. Re-issues are generally applied for after it has been found that the patent could not withstand litigation. It is, therefore, especially desirable that the new Specification and Claims should be prepared with great care and skill. Terms liberal in these cases.

Foreign Patents.

In addition to American patents, we secure, with the assistance of co-operative agents, claims in all foreign countries which grant patents, including Great Britain, France, Belgium, The Netherlands, Prussia, Austria, Russia, Spain, British India, Saxony, Hanover, Sardinia, Norway, Sweden, Australia, Mexico, Victoria, V. I.

Many valuable and important inventions of Americans are being yearly surreptitiously patented in foreign countries, some of which governments allow it, thus depriving those who have valuable inventions from their rights.

Patents obtained in England, France and Belgium, will secure the rights of an inventor among many millions of the most enlightened people on the globe; it is therefore very important, if the invention is valuable, to secure foreign patents.

Our schedule prices for obtaining foreign patents, in all cases, will be as low, or lower, than those of any other agency.

To Eastern Inventors.

Our close proximity to Mexico, Australia, and the Islands, enables us to obtain Letters Patent for you with much less delay and expense than they can be secured through any other agency in the United States.

Comparatively few inventors seem to be aware that Melbourne, in Australia, is a city nearly double in size to San Francisco, besides the adjacent colonies of great commercial and mineral importance. Inventions of all kinds, but especially those relating to the saving of gold and silver, if secured in Australia, will often prove of great value. We have competent agents there, and can promise that the business will be attended to with fidelity and dispatch.

DEWEY & CO.,

Patent Solicitors, Mining and Scientific Press Office,
505 Clay Street, San Francisco.

WORDS FOR MINERS.—The Gold Hill Daily News, Nevada—a medium of good authority—saith thus:

The MINING AND SCIENTIFIC PRESS is a weekly journal, published in San Francisco, which is entitled to the subscription patronage of every practical miner in Nevada, and every person interested in Nevada or California mining operations. It is a well gotten up sixteen-page quarto; and its reading would tend vastly to the particular "posting" and general enlightenment of our sort of working folks. Subscribe for it. Five dollars a year; three dollars for six months. It should have an agency in Virginia and Gold Hill; but we see none advertised in its columns. Every new improvement in mining implements and operations are fully described by words and illustrated by wood cuts in this excellent publication. A specimen number can be seen at our office.

ESTABLISHED

[MAY, 1866.]

VOLUME THIRTEEN

—OF THE—

Mining and Scientific Press,
COMMENCING JULY, 1866.

DEWEY & CO., Publishers.

Issued every SATURDAY, at our Book and Job Printing Office, 505 Clay street, corner of Sansome, SAN FRANCISCO.

Terms in Advance:—One year, \$5; Six months, \$3; Single copies, 15 cents; Monthly Series, \$5.50 per year, or 65 cents per number. Back Volumes from January, 1864, \$3 per volume; bound, \$5 per volume.

The MINING AND SCIENTIFIC PRESS is now thoroughly established, and enjoys one of the largest and most permanent subscription lists of any weekly journal on this coast. The individual character and reputation of its constant patrons throughout the entire coast is one of the best recommendations of its merits and value as a medium of intelligent progress and prosperity.

DEWEY & CO., Proprietors,

Mining and Scientific Press Patent Agency, Newspaper Book and Job Printing Office, 505 Clay street, San Francisco.

C. W. M. SMITH. W. B. EWER. A. T. DEWEY.

RATES OF ADVERTISING.

—IN THE—

Mining and Scientific Press.

Mining Advertisements.	Upaid in Advance.
Notices of Meetings, per square, three weeks.....	\$3 50
Notices of Meetings, per square, four weeks.....	4 00
Assessment Notices, of ordinary length, four weeks.....	7 00
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Miscellaneous Advertisements.	
One week, per square.....	\$1 50
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Advertisements of great length, or of special character, inserted by contract on the most favorable terms.	

Terms of Subscription.

One copy, one year, by mail, in advance.....	\$5 00
One copy, six months, by mail, in advance.....	3 00
One copy, one year, by express.....	6 50
One copy, six months, by express.....	3 50
Five copies, one year, by mail, in advance.....	20 00
By city carriers, per month.....	60
Single copies.....	15
Monthly Series (or parts).....	65

The Circulation of the Press, already extensive, is rapidly increasing, and substantial traders and business men are widely disseminating information of their business amongst the most intelligent, influential and industrious classes of the Pacific States and Territories will find no more effective or economical medium for advertising.

DEWEY & CO., Proprietors,
Patent Agency and Job Printing Office, 505 Clay street, San Francisco.
[Amis] July 1, 1866.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & CO., Patent Agents.
San Francisco, May 1st, 1866.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, Sept. 22d, 1866.

The Money Market since our last reference has been characterized by rather more ease in some quarters, and the deposit line in Bank shows a slight accumulation of available funds. In the open market, however, the same stringency prevailing for some time past still continues, and the demand for fair securities is very active at full rates— $1\frac{1}{2}$ to $2\frac{1}{2}$ per cent. per month. These quotations are governed, in most instances, by the character of the collateral offered. Mining stocks are not in favor as a basis of loans, and few or no negotiations can be made upon this class of securities even at a wide range from current market value. The depression of the Share Market for so long a time has been in no slight degree effected by the inability of operators to obtain facilities in Bank or upon the street.

We quote Gold Bars at previous figures—\$300@340. Silver Bars range from $1\frac{1}{2}$ to $1\frac{3}{4}$ per cent. We learn of a choice lot selling at $1\frac{1}{2}$ per cent. discount.

Currency Drafts on the East sell at $3\frac{1}{2}$ per cent. premium on gold; and Coin Drafts are made at $2\frac{1}{2}$ per cent.

Telegraphic Transfers are made at $3\frac{1}{2}$ per cent. premium. Sterling commands 49d. for 60 days' bills.

Our latest telegraphic advices from New York quote Gold at 145 $\frac{1}{2}$.

City Stocks remain inactive, and the Board note no sales during the past week. On the 19th instant the Trustees of the San Francisco and Oakland R. R. Company sold at auction 400 shares of their stock within a range of \$51@55 per share. The capital stock of this company is \$500,000, composed of 5,000 shares at \$100 per share—full paid. California Steam Navigation Company is held at \$74 bid. State Telegraph can be obtained at \$31 $\frac{1}{2}$. Spring Valley Water Company is quoted at \$64 asked. San Francisco Gas Company is now held at \$130 bid.

Legal Tender Notes were quite active during the week just closed, and nearly \$100,000 were sold, opening at $71\frac{1}{2}$ ¢, steadily improving to 72, and selling yesterday at $71\frac{1}{2}$ ¢. U. S. 7-30 Bonds, July issue, sold at $75\frac{1}{2}$ ¢.

The Mining Share Market for the past week exhibits no improvement from the closing quotations of last week, and a reduced number of shares of the several companies have been dealt in. Yellow Jacket attracted the most attention, the same shares repeatedly changing hands during the various sessions of the Board. Several leading stocks have been well maintained, and the depression sometimes apparent after the payment of dividends is now quite noticeable.

Hale & Norcross continues to be firmly held, and for several weeks past no sales have transpired in the Board. At the close we quote it at \$1,680 bid. This mine, we learn, is in an excellent producing condition, and up to the 17th instant, some 1,900 tons of ore have been delivered to Custom Mills, 65 per cent. of the assay value of which gives a yield of about \$92,000, equal to a fraction over \$48 per ton.

Savage has met with few sales, declining from \$1,145 to \$1,120, rallying to \$1,140, dropping to \$1,105, and closing yesterday at \$1,100. This mine presents no unfavorable features. In the north Potosi chimney, 4th station, the deposit of ore, in running south, has widened and is of a better quality. Some improvement has been met with in the west seam, same station. On the 17th instant—in the south drift of the Curtis shaft—the connection between this mine and the Hale & Norcross ground was effected. It developed nothing of importance, and for the present only serves for ventilation, proving of considerable advantage in this respect. During

the week ending 15th instant, 441 tons of ore were extracted from the mine the approximate value of which is about \$19,845, and the expense of producing and reduction \$12,738, leaving a net profit of \$7,107. This company now employ 139 persons.

Crown Point is quite inactive, and trifling sales were made during the past week, opening at \$890, improving to \$915, buyer 30, then declining to \$875, and closing yesterday at \$825 bid. We learn of some improvement in this mine, and the lower drift, it is said, is looking much better. During the week ending September 16th, 652 tons of ore have been produced.

Yellow Jacket has been very actively dealt in, some 300 feet having changed hands during the week. It opened at \$735, ex-dividend, advanced to \$750@765, buyer 30, then fell to \$705, seller 10, and closed yesterday at \$685. From the 1st to the 16th inst. 20 $\frac{1}{2}$ tons of first-class and 4,025 tons of second-class ore have been extracted from the mine, yielding about \$118,800 from partial returns, or an average of nearly \$30 per ton. The average yield of the present month will, it is thought, fully equal that of August. This company now employ 135 miners, 23 carmen, 37 prospectors, 21 mechanics, and 22 outside men—total 243.

Gould & Curry has not been inquired for during the past week; two feet sold yesterday at \$600. We have learned nothing unfavorable in regard to this mine.

Ophir has been sold at a decline from former quotations, opening at \$210, advancing to \$212 $\frac{1}{2}$, receding to \$205, then selling at \$180, seller 30, and at the close sold at \$200. The work of sinking the shaft to a further depth of 100 feet, is being vigorously prosecuted, and is now down about 20 feet below the ninth station. The shipments of low grade ores, for the week ending September 12th, amounted to 186 tons, the average assay being 55 per cent; and of first-class ore for the fortnight ending September 15th, 37 tons at an average of about \$350 per ton, making an aggregate yield of \$22,250.

Chollar-Potosi declined from \$137.50 to \$130, rallied to \$135, then dropped to \$118, closing yesterday at \$115. We are informed of a slight improvement in several stations of this mine—nothing amounting to anything special. Some 460 tons of ore were shipped to custom mills during the week ending Sept. 15th. This company at present employ 85 men.

Belcher has also declined, opening at \$125@126, receding to \$122.50, then advancing to \$126 b. 30, and selling yesterday at \$115 b. 30.

Empire Mill and Mining Company was sold for \$77.50 early in the week, and we quote it at the close at \$65 bid. The receipts of this company are said to be in excess of the usual returns. We can learn of nothing to justify the recent decline of this stock.

Imperial has not been well maintained, opening at \$92 and closing at \$84. Since our last issue about \$16,000 in bullion have been received. The new shaft—known as the Imperial-Empire shaft—has attained a depth of 575 feet.

Confidence has declined from \$55 to \$47 seller 30, and sold yesterday at \$94. Bullion sold at \$20@19. Overman receded from \$9 to \$5 $\frac{1}{2}$, closing at \$4 50@4. Sierra Nevada sold at \$5@5 $\frac{1}{2}$, and Exchequer at \$1@75¢.

The aggregate sales of stocks, Legal Tender Notes, etc., since Saturday amounted to \$381,995.50.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT. OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Assurance M. Co. Cal. \$1	Sept 25—Oct 12	Sept 25—Oct 12	Sept 25—Oct 12
Arbitros M. Co. Mex. \$1	Oct 2—Oct 25	Oct 2—Oct 25	Oct 2—Oct 25
Antioch F. Petrol. Co. Contra Costa Co. \$2	Sept 2—Oct 15	Sept 2—Oct 15	Sept 2—Oct 15
Consolidated S. H. M. Co. \$1	Oct 1—Oct 21	Oct 1—Oct 21	Oct 1—Oct 21
Chilpanema M. Co. \$250	Sept 28—Oct 15	Sept 28—Oct 15	Sept 28—Oct 15
Capitolia G. & S. M. Co. Cal. \$150	Sept 18—Oct 8	Sept 18—Oct 8	Sept 18—Oct 8
Cordillera G. & S. M. Co. Mex. \$1	Sept 1—Sept 27	Sept 1—Sept 27	Sept 1—Sept 27
Crown Point, dividend, \$80	Payable June 15	Payable June 15	Payable June 15
Confidence S. M. Co. Storey Co. Nev. \$1	Sept 13—Oct 13	Sept 13—Oct 13	Sept 13—Oct 13
Cosnia S. M. Co. Mex. \$1	Annual Meeting Oct 2	Annual Meeting Oct 2	Annual Meeting Oct 2
Diana G. & S. M. Co. Nev. \$5	Oct 5—Nov 2	Oct 5—Nov 2	Oct 5—Nov 2
Diamond M. Co. Del Norte Co. \$1	Sept 15—Oct 24	Sept 15—Oct 24	Sept 15—Oct 24
Del Norte Comstock Co. Del Norte Co. \$1.45	Aug 30—Sept 24	Aug 30—Sept 24	Aug 30—Sept 24
Daney G. & S. M. Co. Lyon Co. Nev. \$50	Sept 15—Oct 1	Sept 15—Oct 1	Sept 15—Oct 1
Exchequer M. Co. Storey Co. Nev. \$1	Sept 21—Oct 10	Sept 21—Oct 10	Sept 21—Oct 10
El Tiste S. M. Co. Sra. Mex. \$1	Sept 8—Oct 15	Sept 8—Oct 15	Sept 8—Oct 15
Enterprise G. & S. M. Co. Meadow Lake, \$1.25	Sept 28—Oct 13	Sept 28—Oct 13	Sept 28—Oct 13
Eureka, San Juan, dividend \$1.00 per sh.	Pay Indly—Sept 11	Pay Indly—Sept 11	Pay Indly—Sept 11
Geo. Washington O. & S. M. Co. Alp. Co. \$250	Oct 20—Nov 5	Oct 20—Nov 5	Oct 20—Nov 5
Great Central M. Co.	Annual Meeting Oct 8	Annual Meeting Oct 8	Annual Meeting Oct 8
Gold Hill Tun. G. & S. M. Co. Nev. \$1	Sept 4—Sept 25	Sept 4—Sept 25	Sept 4—Sept 25
Gould & Curry, dividend \$90	Payable June 8	Payable June 8	Payable June 8
Humboldt G. & S. M. Co. Nev. \$2	Nov 1—Nov 27	Nov 1—Nov 27	Nov 1—Nov 27
Hanson G. M. Co. Del Norte Co. \$150	Sept 8—Oct 15	Sept 8—Oct 15	Sept 8—Oct 15
Hale & Norcross, dividend	Payable Sept 15	Payable Sept 15	Payable Sept 15
Imperial G. & S. M. Co. dividend \$8.50	Payable Sept 15	Payable Sept 15	Payable Sept 15
Independent G. M. Co. Dividend	Payable Sept 15	Payable Sept 15	Payable Sept 15
Independent C. M. Co.	Meeting Sept 28	Meeting Sept 28	Meeting Sept 28
Jefferson G. & S. M. Co. Yuba Co. Div. \$10 sh.	Payable Aug 23	Payable Aug 23	Payable Aug 23
Keystone M. Co. Calaveras Co. \$5	Oct 22—Nov 10	Oct 22—Nov 10	Oct 22—Nov 10
Kentucky C. M. Co. Calaveras Co. \$1	Sept 5—Sept 26	Sept 5—Sept 26	Sept 5—Sept 26
Lady Bell C. M. Co. Del Norte Co. \$10	Sept 11—Oct 25	Sept 11—Oct 25	Sept 11—Oct 25
Lady Bryan, \$1	Aug 25—Oct 15	Aug 25—Oct 15	Aug 25—Oct 15
La Vieille C. M. Co. \$1	Oct 9—Oct 31	Oct 9—Oct 31	Oct 9—Oct 31
Libertad G. & S. M. Co. Mex.	Meeting Sept 22	Meeting Sept 22	Meeting Sept 22
Mina Rica de las Flores M. & S. Co. Cal. \$1	Oct 2—Oct 25	Oct 2—Oct 25	Oct 2—Oct 25
Melones and Stanislaus G. & S. Co. \$2	Oct 6—Oct 23	Oct 6—Oct 23	Oct 6—Oct 23
Mammoth G. M. Co. Kern Co. \$500	Oct 4—Oct 20	Oct 4—Oct 20	Oct 4—Oct 20
Nuestra Sra de Guadalupe S. M. Co. \$1	Oct 1—Oct 31	Oct 1—Oct 31	Oct 1—Oct 31
Old Colony S. M. Co. Nevada, \$5	Sept 7—Oct 5	Sept 7—Oct 5	Sept 7—Oct 5
Overman S. M. Co. \$15	Sept 25—Oct 10	Sept 25—Oct 10	Sept 25—Oct 10
Patrolina and Dolares S. M. Co. \$1.25	Sept 22—Oct 8	Sept 22—Oct 8	Sept 22—Oct 8
Rattlesnake G. & S. M. Co. Yuba Co. \$1	Sept 12—Oct 28	Sept 12—Oct 28	Sept 12—Oct 28
San Marcial S. M. Co. Mex. \$1	Oct 19—Nov 21	Oct 19—Nov 21	Oct 19—Nov 21
Santa Cruz Petrol Oil Works Co.	Annual Meeting Oct 25	Annual Meeting Oct 25	Annual Meeting Oct 25
Segregated Belcher M. Co. Nev. \$5	Sept 13—Oct 25	Sept 13—Oct 25	Sept 13—Oct 25

Simpson M. & M. Co. Alpine Co. \$30	Sept 4—Sept 24	Sept 4—Sept 24	Sept 4—Sept 24
Sanliano M. Co. dividend	Payable Sept 5	Payable Sept 5	Payable Sept 5
Sierra Nevada S. M. Co. Nev. \$4	Sept 5—Sept 25	Sept 5—Sept 25	Sept 5—Sept 25
Tecumseh O. S. & C. M. Co. Cal. \$50	Sept 17—Oct 8	Sept 17—Oct 8	Sept 17—Oct 8
Tuolumne Mountain G. & S. M. Co. \$1	July 22—Sept 11	July 22—Sept 11	July 22—Sept 11
Tellurium O. & S. M. Co.	Meeting Sept 27	Meeting Sept 27	Meeting Sept 27
Union Mattole Oil Co. Humboldt Co. \$15	Sept 24—Oct 15	Sept 24—Oct 15	Sept 24—Oct 15
White & Murphy G. & S. M. Co. \$1	Oct 11—Nov 1	Oct 11—Nov 1	Oct 11—Nov 1
Yellow Jacket S. M. Co. div. \$50 sh.	Payable Sept 15	Payable Sept 15	Payable Sept 15

Those marked with an asterisk () are advertised in this Journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, September 21, 1866.	
United States 7 3-10ths	\$ 76 $\frac{1}{2}$ \$ 77
Gov. Legal Tender Notes	71 $\frac{1}{2}$ 71 $\frac{1}{2}$
State Bonds, 7 per cent.	81 $\frac{1}{2}$ 83
San Francisco 10 per cent.	100 105
San Francisco Bonds, 1855, 6 per cent.	120 140
San Francisco Gas	18 71
California Navigation, 1858, 6 per cent.	19 21
Sacramento City Bonds, 6 per cent.	61 65
Sacramento County Bonds, 6 per cent.	75 82
Marysville Bonds, 10 per cent.	80 85
Stockton Bonds, 10 per cent.	70 75
Yuba County Bonds, 10 per cent.	80 85
Butte County Bonds, 10 per cent.	70 75
California Navigation Co.	74 75
State Telegraph Stock	31 $\frac{1}{2}$ 34
Sacramento Gas Co.	75 75
Spring Valley Water Co.	63 64 $\frac{1}{2}$

RAILROADS.	
Sacramento Valley Railroad	54 60
Omni-bus Railroad	54 60
Central Railroad Co.	65 65
North Beach and Mission	46 46
MINING STOCKS.	
Alpha	\$ 55 \$100
Baltimore American	10 18
Bullion, G. H.	112 $\frac{1}{2}$ 112 $\frac{1}{2}$
Belcher	49 51
Confidence	2 40
Ophir	600 600
Gould & Curry	1100 1110
Empire M. & M. Co.	115 120
Chollar-Potosi	1875 1875
Hale & Norcross	4 6
White & Murphy	655 655
Sierra Nevada	4 $\frac{1}{2}$ 5
Yellow Jacket	825 875
Overman	85 90
Crown Point	85 90
Imperial	85 90

San Francisco Market Rates.

WHOLESALE PRICES.	
FRIDAY, Sept. 21, 1866.	
Flour, extra, per bbl.	5 00 @ 5 50
Do Superfine	4 50 @ 4 75
Corn Meal, per 100 lb.	1 25 @ 1 50
Wheat, per 100 lb.	1 25 @ 1 50
Oats, per 100 lb.	1 40 @ 1 50
Burley, per 100 lb.	80 @ 1 00
Beans, per 100 lb.	3 50 @ 5 50
Potatoes, per 100 lb.	40 @ 60
Hay, per ton	7 00 @ 13 50
Live Oak Wood, per cord	8 00 @ 10 00
Beef, on foot, per lb.	5 @ 8
Beef, extra, dressed, per lb.	10 @ 12 $\frac{1}{2}$
Sheep, on foot, per lb.	4 00 @ 5 00
Hogs, on foot, per lb.	8 @ 9
Hogs, dressed, per lb.	10 $\frac{1}{2}$ @ 13
GROCERIES, ETC.	
Sugar, crushed, per lb.	12 $\frac{1}{2}$ @ ..
Do China	10 @ 11
Coffee, Costa Rica, per lb.	24 @ 25
Do Rio	23 @ 23 $\frac{1}{2}$
Tea, Japan, per lb.	80 @ 90
Do Green	70 @ 1 00
Hawaiian Rice, per lb.	9 @ ..
China do.	5 $\frac{1}{2}$ @ 7 $\frac{1}{2}$
Coal Oil, per gal.	88 @ 70
Caudles, per lb.	15 @ 22
Ranch Butter, per lb.	35 @ 50
Isthmus do.	30 @ 37 $\frac{1}{2}$
Cheese, California, per lb.	10 @ 17
Eggs, per doz.	19 @ 20
Lard, per lb.	19 @ 20
Ham and Bacon, per lb.	20 @ 21
Shoulders	12 $\frac{1}{2}$ @ 15
Retail Prices.	
Butter, California fresh per lb.	45 @ 50
do pickled per lb.	35 @ 50
do Oregon	35 @ 50
do New York per lb.	40 @ 50
Cheese, per lb.	15 @ 25
Honey, per lb.	30 @ 40
Eggs, per doz.	50 @ 60
Lard, per lb.	22 $\frac{1}{2}$ @ 25
Ham and Bacon, per lb.	22 $\frac{1}{2}$ @ 25
Cranberries, per gal.	75 @ 1 00
Potatoes, dried, per lb.	15 @ ..
do New York	15 @ ..
Tomatoes, per lb.	1 @ 5
Onions, No. 1, per lb.	6 @ ..
Apples, No. 1, per lb.	3 @ 6
Pears, table, per lb.	8 @ 10
Pears, dried, per lb.	20 @ 22
Peaches, dried, per lb.	15 @ ..
Oranges, per doz.	50 @ ..

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Mining Summary.

CALIFORNIA.

Alpine County—

From the *Miner*, of Sept. 15th, we clip the following items: The American company, in sinking an incline for the purpose of ventilating the works below, this week struck another body of quartz, the hack ledge from the croppings of which such good assays were obtained some time since. As soon as the air-shaft connects with it, the tunnel below will be pushed through this ledge. . . . The Mullan shaft is now down one hundred and twelve feet, and the quartz now found is of better character than at any point above. They intend to push on to the water level, where it is thought pay ore will be found in large quantities. . . . Mr. D. G. Wilson, who went east about a year since to secure capital to develop the mining property lying across Monitor Mountain, and known as the Turkish ground, has disposed of the property to a company of capitalists in Schenectady, New York. The tunnel, which is now in 100 feet, is to be pushed to completion as rapidly as possible.

Anador County—

The *Ledger*, of same date, says: Considerable quartz mining is going on about Aqueduct City, once known for its rich placer mines. The Bowers have two or three lodes, specimens from one of which we have seen. They were rich in free gold. John Ross & Co. have a large lode, which they call the Mammoth, and which has yielded \$40 per ton, working process. . . . Gen. Rosecrans and others have been visiting the quartz veins about Jackson during the past week.

Butte County—

The *Chico Courier*, of the 15th inst., says: Capt. DeHaven, of Susanville, paid a flying visit to Chico this week. He informed us that a rich gold ledge had been opened at Indian Valley, which was four feet wide at a depth of twenty feet, and showed gold throughout the rock. The indications are that it is richer than the famed Crescent Mills ledge. . . . John C. Nave writes to Mr. Jones, of the firm of Suydam & Jones, that he found a nugget of gold in his claim on the west branch of Butte Creek, known as Portuguese Point, the 18th of August, which weighed fourteen ounces, six dollars and twenty-five cents.

The *Record* says: We hear good accounts from operations on the Yuba and on the upper Feather. J. M. Clark & Co. have run a dam in White Rock, and are now taking out fifty dollars per day to the hand. They have plenty of pay dirt to keep them busy until the close of the season, and will realize more than any who engaged in the heavy fluming operations of former years.

Calaveras County—

The *Copperopolis Courier* of September 8th has the following items: Mr. Irvine, proprietor of the lately discovered valuable quartz lead at El Dorado, in this county, has all the machinery necessary for the erection of a mill on the claim, which he will soon have in operation. . . . A party of Mexicans have discovered a quartz vein four feet wide, at French Camp, about three miles east of Murphy's, from which they took out in one week, recently, twenty-six ounces of gold. . . . During the past week, the Gold Hunter company have made another very rich strike at a much greater depth in the shaft than that of the previous week, and also much richer.

Same paper of 15th says: The Angels' Quartz mining, or Southwell company, are about to erect a 30-stamp quartz mill on their claim at Angels, which is to be completed by the first of November next. Baker & Co. are also repairing their old mill, which will be in operation about October 1st. Angels now presents a livelier appearance than it has before for several years. . . . At the north end of the lower level in the discovery shaft of the Keystone mine, the vein is improving, and is now better defined than at any other point. . . . Prospects in the Empire are flattering. . . . Work will soon be resumed on the Columbus. . . . The Gold Hunter begins to talk about a 20-stamp mill. . . . A West Point correspondent of the *Calaveras Chronicle* records the discovery near that place, by Mr. Harris, of a quartz lode, which at the depth of six feet is four feet wide, and appears to be a solid mass of gold-bearing sulphurets. A streak four inches wide, near the hanging wall, prospects \$125 per ton.

The *Chronicle* of the 15th instant says: We understand that arrangements have been made by parties in this town for building a new quartz mill in the vicinity of Railroad Flat. It is to be devoted to custom work, and is to be supplied with one of the Tyler water wheels.

Colusa County—

The *Sun* of the 13th September has the following: We neglected to note last week the departure from town of the copper smelting apparatus for the Ashton mines. The company have heretofore sent out a large number of fire-bricks and have burned a kiln out there, and last week the balance went out, and

we expect soon to hear of practical results. They expect to get the ore from a lode near d'Arteney's, called the Lion. There is ore enough in sight to pay the very great outlay the company have made.

Contra Costa County—

The *Gazette* of September 15th says: Mr. John Tonkin, who has for some time been sinking in the neighborhood of Marsh Ranch for coal, struck a fine vein last week, in a shaft of thirty feet in depth. The coal is reported to be of excellent quality, and the vein is three and a half feet wide where the shaft intersects it. We also learn that several promising coal veins have been lately found in the San Pablo Creek hills.

El Dorado County—

The *Placerville Record* of September 15th says: The wealth of our quartz lead has long been problematical, but gradually actual working tests are demonstrating that we have rich paying ledges at our very doors. For instance, the Harmon mine has been worked but a short time. Last week the mill on this mine, after a run of eleven days, cleaned up 103 ounces of gold, making a bar worth something over \$1,854.

Fresno County—

A lot of 17,022 pounds of smelted copper ore, from Chowchilla mine, was shipped on the steamer Julia, from Stockton, on Wednesday afternoon. The weight of one lamp was 3,975 pounds.

Humboldt County—

From the *Mattole* correspondence of the *Journal* we cull the following items: The Davis well is down 1,170 feet; the Jeffrey 850, with no more prospects than before reported. At the Pioneer Farm Well they keep their drill in motion, and were down, on Thursday, 256 feet. For the present this is the well showing superior indications of oil. . . . The Yosemite will soon go to work again. . . . The recent levy of an assessment on "unassessable" stock in the Union has caused much dissatisfaction among the shareholders.

Inyo County—

A letter from Owens' River to the *Aurora Times* says: The Slate, Russ, White Mountain, Inyo, Coso and Slab Range are all rich as far as prospected. The San Carlos are pushing their work ahead, and will soon have their mill ready to commence crushing.

Kern County—

We clip the following from the *Humboldt Courier* of September 15th: Howe & Oders are actively at work upon their mines, situated on Fortune Hill. They are keeping their 5-stamp mill constantly at work crushing their ore. The yield pays handsomely. . . . The Union, generally known as "Piper's Mill," will soon be at work. This is a fine 10-stamp mill; it is now at work on the Andy Johnson lode, which is yielding very rich rock. . . . Erskine & Taylor have purchased the Pioneer mill, and are now at work on the Uncle Ahe. . . . Very rich rock is being taken out of the Delphi mine, and Mr. Burdett will soon start the Loyola mill to work on it. . . . The rock from the Robinson continues good. It is worked by arastras. . . . We learn that extremely rich rock has been struck in the Megguire lode, Plute district. The Hope, in the same district, continues to grow larger and richer as the rock progresses on it.

The Robert R. Johnson lode in Long Tom district, near the famous Long Tom mine, has two shafts sunk upon the vein, one forty-two and the other thirty-four feet, about forty feet apart, and each disclose a ledge from eight to ten inches wide. The rock is extremely rich. The vein has been traced a considerable distance.

Mariposa County—

The *Gazette* of 15th inst., says: The Potts' mine, in Hunters' Valley about which there has been so much talk, has at last changed hands. A wealthy company at San Francisco now own it, but the amount paid for it we are not able to state.

Nevada County—

From the *Gazette* we clip the following items: The Assessor's notes show that the North Star company, Grass Valley, has sixteen stamps running, three engines and boilers, and in the last twelve months have crushed 7,000 tons of rock, which has averaged \$30 a ton. The number of men employed is one hundred and forty, and their receipts in the past year have amounted to \$210,000. The Rocky Bar company are running sixteen stamps, employ sixty men, and have crushed in the past seven or eight months 3,500 tons of rock, which has averaged \$28 a ton. The best paying mine which has yet furnished statistics is the Heuston Hill mine, the rock of which has averaged in the past year \$100 per ton. . . . A remarkably rich specimen was recently taken from the ledge recently opened on Diamond creek by Mr. Spring and others. A ton of such rock would contain a fortune. . . . Marselus & Maltman determined a few days since to erect a mill at the old Manzanita diggings. The work is already under way. The mill is to have fifteen stamps, of 750

pounds each, and will be propelled by a turbine wheel. It will probably be running by November. . . . The Eagle company got up steam for the first time on the 13th. They are on the California claim. The engine is of 80-horse power.

Same paper of 15th inst. says: We learn that the Chalk Bluff Blue Gravel Mining Company, incorporated in San Francisco, have their preliminary arrangements nearly completed, and will commence sinking for the blue lead next Monday. . . . The copper ledge at Bear Valley has been opened only in one place, and that at no great depth, but is about four feet in width, and several tests and assays give a yield of from twenty to thirty per cent.

The Star company started their mill last week. Prospects are good. They are at work on Star rock. . . . We learn that the owners of the Jim ledge are now hauling another lot of rock to the Star mill, which will commence crushing it in a week or two.

The Grass Valley *National* has these items: The Union Hill mill, after a few days' run, has just cleaned up three hundred and fifty ounces of gold. The Vanderbilt ledge is situated a short distance from the Lone mine. The claim was located about four months since, and is owned by C. M. Willard and others. This company have sunk a shaft forty feet deep, at which depth they find the ledge to be about eighteen inches thick. The ledge, generally, prospects well.

The editor has made a trip to Union Hill three miles east of Grass Valley. From his description of the mills there, we extract a few items: The Lucky mine has two tunnels, one 400, the other 200 feet in length. A drift 1,484 feet long, connects the two. Shaft 275 feet. The new 15-stamp mill will be running in about three weeks. About 5,600 tons of rock have been taken out during the year past. . . . The mill of the Cambridge company will be started in October. . . . The Andrews company will soon strike the ledge. . . . The Union Hill mill is working custom rock. . . . The mill of the Union company crushes 350 tons per week. The incline is near 205 feet in depth. Drifts are being run east and west from the bottom of the incline. This ledge averages three to four feet, and grows wider as the depth increases.

The *Transcript* of the 14th, says: The hoisting works on the new incline of the extension of the Italian ledge, started up a day or two since. The incline is nearly down to the ledge, and in a few days the company will commence getting out rock. . . . Mr. Pattee started below, yesterday, to get a 10-stamp mill for the California mine.

Same paper of 13th, has the following: A Chinese company have been working over the bed rock in a set of claims at Relief Hill, in this county. Last week they found a boulder weighing forty-five pounds, from which they took thirty-four pounds of pure gold. This netted them the neat little sum of \$6,936, as the gold was sold for seventeen dollars per ounce.

EXCELSIOR.—The *Gazette* of 17th, says: We learn from parties recently down from Meadow Lake, that the 20-stamp mill of the Excelsior company is nearly completed, and the owners expect to start it up the first of this week. The company already have out a large amount of choice ore.

A correspondent writing from Meadow Lake, September 7th, to the *Grass Valley Union*, says quite a number of business men are packing up and removing their stocks to milder quarters. Appearances indicate that in the course of two or three weeks, Meadow Lake will be deserted by all its transient population. Business houses which have rented for \$100 to \$250 a month, are now offered free to the occupants if they will take them.

We clip the following items from the *Sun*: The North Star company have sunk a shaft some twenty-five feet deep on their ledge, and have discovered a fine vein of rich sulphurets ore. . . . The U. S. Grant company has purchased the mill of Parsons & Co., at Carleton, and are now engaged in making some alterations. . . . The Young American ledge is located about a quarter of a mile from Mendoza. The company have sent a small quantity of rock to San Francisco to the Swansea agent, and have the returns as follows: Gold, \$10; silver, \$15; cobalt and nickel, \$40; a large quantity of arsenic and other base metals. They receive in advance forty dollars per ton, and the remainder of the sixty-five dollars when the returns come from England.

Forty-six tons of ore from the Enterprise mine were worked at the Winton mill by batteries and copper plates. Four tons were crushed, and the pulp from the batteries was worked by the chlorinating process. The sulphurets of the forty-six tons were concentrated, and the ore, amounting in all to four and three-fourths tons, was subject to the same process. The net results are then as follows: Free gold, from forty-six tons, \$408; gold from raw ore, \$153; gold from concentrated ore, \$649. Total, from fifty tons, \$1,210.

Placer County—

The *Herald* of Sept. 15th, has these items: Mathewson & Neely have recently struck a quartz lead, on the ridge between and near the junction of Rock and Dry Creeks, of about twelve inches in width, that is turning out rock showing an abundance of free gold. . . . The New Hope company located their claim on the 2d day of August. Their shaft is now down 19 feet, out of which they took 25 tons of quartz, which was crushed at Pugh's mill in Ophir. The rock yielded \$7.50 to the ton. The claim is located about one mile and a quarter south of Auburn. . . . On the Wells quartz claim, recent developments have been very flattering. The lead is between three and four feet in width, showing a strata of partially decomposed quartz, 12 inches wide, rich in free gold; a strata of copper sulphurets, and also one of gray sulphurets, in which free gold is plentifully distributed.

The *Stars and Stripes*, of 12th, says: The owners of the "Civil Rights," a few days since, commenced sinking on a parallel ledge to the former, and at the depth of thirty feet have struck a vein fourteen inches wide, which prospects well in free gold.

Plumas County—

The following items are from the *Quincy Union*, of the 15th inst.: A company of citizens from this town have located 24 claims of 200 feet square each, on the flat at Elizabeth-town. They intend purchasing a steam engine and pump, and will then sink a shaft to the bed-rock and work the claims by drifting. . . . We learn that White & Co's claim, near Nelson Point, filled up with water one day this week, and the pumps now in use are not able to drain the ground again. The company had just struck bed rock. . . . King's Quartz mill, at Mohawk Valley, was cleaned for the first time on Saturday last. The amount taken out was \$600, which was from the aprons alone, the batteries remaining undisturbed. . . . Mr. C. W. Callahan, who has been at work prospecting upon his ledge, near the Crescent Mills, for the past two years, has at last struck some very rich rock.

We learn from the *Appeal* that an old friend of ours, of the Mount Hope company, eight miles above La Porte, has "struck it." The company have a tunnel into a hill 2,300 feet, and are now beginning to reap the reward of their persevering labor. They are working ten hands, and taking out four and five dollars to the hand per day. After getting in through a great deal of waste dirt, which is now necessary to remove, they expect to average nine dollars to the hand.

Shasta County—

The *Courier* of the 15th inst. has these items: The Williams & Kellinger Company have decided to abandon all work on their upper tunnel, and have also stopped running the lower tunnel in the direction in which it has been run for 1,035 feet. A vein of ore was tapped and passed in the lower tunnel in June last, at a distance of 950 feet from its mouth. They will return to that point, and drift each way for the main ledge. . . . The Potosi are now running their mill, pushing their tunnel ahead, and sinking a shaft on the ledge, all at the same time. This week they cleaned up after a run of eight days, and realized the sum of \$978.98. . . . Kelly's new mill at Muletown is now running, and we will probably be able to give the result next week. The rock is said to assay remarkably rich in gold and silver, and the owners think it will eclipse the Potosi ore in value. The latter pays from \$75 to \$100 per ton. . . . Rock from the Chicago looks fine. . . . The Horse Shoe Bnd Co. will not commence operations on their claim this fall.

Sierra County—

The following items are from the *Messenger* of the 15th inst.: A clean up of twenty tons of the rock from the Good Hope, at the Gold Bluff mill, yielded thirty dollars to the ton. . . . Stockwell & Sayles, mining in Kanaka Creek, at the mouth of French Ravine, took out eleven hundred dollars last week. They had been doing well for some time previous. . . . The Pittsburgh Mining Company of Potosi, have again struck pay dirt, and last week took out \$4,000. . . . Governor Newell, of the Greenback ledge, is still pushing forward his mill as fast as men and money can do it. . . . The Spoon ledge, at Chips' Flat, are pushing forward a tunnel toward their ledge, with fair prospects of striking it within seventy-five or one hundred feet. The croppings paid well in a hand mortar.

Same says of the Bear Valley mines:—Two assays were made from the top rock of the Bear Valley Company's ledge which assayed forty-two and forty-seven dollars gold and silver. The Hamilton Company, Murray ledge, has run a long open cut to strike their ledge. They have taken out some very fine looking rock. The Sherman ledge, Sheridan Company, have stripped their ledge across, and are sinking down. The Wilho Company is down on their ledge about nine feet. The Rickleton ledge, about eighteen feet wide, is very much impregnated with sulphurets. The Florence Company are down on their ledge eight feet. The Virginia Company has stripped their ledge across preparatory to sinking a shaft down fifty feet.

Yuba County—

The *Appeal* of Sept. 18th says:—A correspondent sends us the following items from Brown's Valley: The Jefferson Company is getting up its new engine, boilers, etc., and expect to get the pump running in about a week. This is impor-

tant because the mine is filling with water. The Pennsylvania is crushing with its little battery, and doing as well as ever. The fortnight's clean up on Sunday was about the same as the last—say \$3,000. The Rattlesnake stopped work on Saturday, and there was considerable excitement because there was no money on hand to pay off the workmen. Probably work will be resumed again.

Correspondent of same at Smartsville, gives an account of the claim on the "Ancient River, or Blue Gravel Beds." We select a few items:—The Babb Company cleaned up after a twenty days run, at the rate of \$500 per day. James O'Brien has 200 feet of his tunnel completed. The Pittsburg and Yuba River claim will soon be washing. The shaft shows the finest prospect. It is thought it will be a second "Blue Gravel" claim. The flumes of the Blue Gravel are 3,000 feet long. They make about eight runs per year. The yield, as the figures given show, varies from \$3,000 to \$50,000 for each run. The claim has yielded \$600,000.

NEVADA.

Washoe—

The *Enterprise* has these items: The Savage continues to yield well, and the stock stands at good figures. One hundred thousand dollars is said to have been about the actual profits of the mine for the month of August. Drifting south from the Curtis shaft, unprofitable spots of ore are encountered in the ledge, but the good bodies of ore found in the other parts of the mine are what tells the story. A connection will soon be established between this mine and the Hale & Norcross, to the mutual benefit of each, in the way of a free circulation of pure fresh air. Operations in the Eschequer mine have ceased entirely for the present. Some day or other, when perhaps money is more plentiful and assessments come in freely, it may again be worked, and so successfully as to prove it at a greater depth to be like the Hale & Norcross.

The Yellow Jacket company, at Gold Hill, are now putting up a new engine of 60-horse power at their old works, for hoisting ore, keeping the old one for running the pumps.

Reese River—

From the *Rebelle* we clip the following items: The claim of the Cortez company, on the famous Nevada Giant, in Cortez district, is being worked at present with some degree of energy, and they have taken out about 200 tons of ore which will yield probably an average of eighty dollars per ton. The stratum in the vein from which it is procured is represented to be twelve feet thick, and its extraction resembles quarrying rather than ordinary mining. At present the ore is packed on mules seven miles to the mill, but it is only necessary to pack it about 300 yards. The mill is running, and there are about forty men employed in the district. We saw, yesterday, some specimens of remarkably rich ore from the Hot Creek district. They were obtained from a ledge called the Keystone, recently discovered there by J. J. Noon, and contains masses of native and horn silver. A boiler, engine, and hoisting apparatus, for the Rough Diamond company, had arrived. The crude bullion brought in from the Philadelphia district by Colonel Buell, has yielded beyond the expectations of the most sanguine. The bullion weighed 3,855 ounces, which, after being melted, yielded four bars valued at \$3,648.09. This was obtained from fourteen tons of ore, which was crushed wet and treated without roasting, and yielded an average of over \$260 per ton. It has been estimated that the cost of working the ore from the High Bridge, including the expense of mining and transportation, will not exceed twenty-two dollars per ton. Four and a half tons of ore from the Detroit ledge in the Northumberland district, reduced at the Keystone mill, produced a bar of bullion of the value of \$569.30, an average yield of about \$126 per ton. The ore was obtained from the surface. We are informed that greatly superior ore is being taken from the lower excavations in the Murphy mine, in the Twin River district, and that good ore has been accumulated to the extent of a thousand tons. The mill of the company will be completed and running about the first of October. A portion of the machinery for the hoisting works of the Stranger mine, on Lander Hill, had arrived.

Two bars of bullion, 387 and 383 fine, and valued at \$1,865, were obtained from seventeen tons of first and second-class ore from the Morgan and Muacney mine. The ore was reduced at the Keystone mill, and yielded at the rate of \$110 per ton. Work has been resumed on the mines of the Manhattan company. The fine property of the company has been closed for several weeks, for reasons which appear wholly inexplicable. The mill is being overhauled, and put in a condition for successful working.

From "Notes of a Prospector" in same paper, we call the following in reference to ledges in Northumberland district: The Lady Cummings was located on July 12th, and comprises 1,000 feet. It crops boldly for about sixty feet, has been increased for a considerable distance and shows splendidly, width, four feet. A load of ore is to be sent to Austin for reduction. Operations has been commenced on

the Northumberland. The Riehe and Hussey, near the Northumberland, is producing exceedingly rich rock. The Detroit No. 2 is two miles south of the last named. The indications give promise of splendid results. Four and a half tons of surface ore were shipped to Austin, and worked at the Keystone mill, producing a bar of silver of the value of \$569.30. The Central is large and promising. The Armadillo is a small but very rich vein.

The same has an editorial predicting an excitement in reference to that region, when the extraordinary value of the discoveries made during the past year becomes known and appreciated.

The Nye County *News* of Sept. 8th, has the following: In the Knickerbocker, a new tunnel is now in ninety-four feet, and will probably reach the ledge during the present week. Work is being vigorously pushed on the lower or main tunnel, which is in some 240 feet. Mr. Hamilton has arrived in Mammoth district, and will at once commence the development of a portion of the ledge belonging to the company recently organized in Philadelphia, under the name of the Hamilton Co. *Emeralda*—

The *Union* of Sept. 15th, says: The work of the Philadelphia company is progressing well and favorably under the circumstances. The large flow of water had reached the depth of 220 feet, and was being pushed ahead as rapidly as three sets of hauls could sink it.

Black Rock—

The *Eastern Slope*, published at Washoe City, Nevada, says of this district: From a friend who has just returned from the wilderness we gather some items from this region. He says as far as quantity is concerned, no such deposit of minerals was ever discovered before. The ledges are plainly defined, of easy access and are magnificent in their extent. As to their richness there can not now be any more doubt. Dall's mill has worked ore from some twenty different ledges, and without exception, with good results. The Evans Brothers, of Long Valley, are building a mill near Hardin City. It will probably be in running order by Oct. 1st. The *Sage Brush* of the 25th Aug., says: Two of the Black Rock companies have this week made sale of 500 feet of Snow Storm ledge, Hardin district, for \$20 per foot. The purchasers are men of capital, and design the erection and permanent establishment of a mill in this district immediately. The price offered and accepted by the parties for the ground, was only in consideration of benefits derivable from opening up and prospecting the country by means of a mill.

OREGON.

This Oregon Mammoth, one of the newly-discovered quartz ledges on Powder River, is reported by an Auburn correspondent to be very rich. Great excitement is prevailing in Baker county over the discovery of quartz ledges about twenty miles from Auburn, on the head waters of Powder River. Not less than 10,000 feet had been claimed within a few days after the discovery. We learn, says the *Jacksonville Reporter*, that the new quartz mill of the Occidental company, on Jackson Creek, will be employed on or about the 20th of September, when they will commence crushing rock from the Davenport lead.

IDAHO.

We clip the following from the *Owyhee Avalanche* of Sept. 8th: It will be five weeks next Monday, at noon, since the Cosmos company took possession of the Silver Coud mine and commenced opening it. Two tunnels and two shafts were immediately commenced. The lower tunnel is in 270 feet from the beginning of the open cut; the upper one is in 110 feet. The upper shaft is down sixty-five feet; the lower one is at the mouth of the upper tunnel—twenty-eight feet. Another shaft is commenced at the mouth of the lower tunnel, to be sunk sixty feet as soon as possible, from which it is proposed to make another level. The ledge shows an average width of three feet—well defined and proven up for nearly 800 feet. The mill has been crushing rock from the mine for the past two weeks with satisfactory results. The bullion is worth an average of nearly \$6 per ounce. The Lincoln company are still prosecuting development on the Allison. Have been crushing ore from it recently. With what results we do not know, but believe the company have faith enough to continue to prospect it. The legal difficulties concerning the Jackson or Webfoot mill, have been adjusted and the suit withdrawn.

The editor has made a visit to the Poorman mine. He says: We have never been guilty of "pulling" any mine, and it would be entirely useless to do so in this instance; as but few men have ever seen anything near its equal in richness, and therefore receive true statements of it with incredulity. Work is suspended except on the original Poorman ground, and at present the condition of it is about this: Two shafts down respectively 104 and 114 feet—distance between, 129 feet. A tunnel

extends from the bottom of one shaft to that of the other, and the workmen are sloping upwards from this tunnel which has just been completed. The ledge proper will average eighteen inches. The wall rock to the depth of several inches is rich in gold and silver. This, added to the real ledge, makes an average pay vein of fully two feet. Every part of the ledge, opened as before described, contains very large quantities of pure gold and silver—the latter predominating. The "candle-box" and "wagon-tire" reports did not emanate from our pen, but we are willing to vouch for their truth. We picked up one piece of silver the other day, among the second class ore, that would go far towards making it a "buggy" tire, and saw solid chunks of silver as large as a gallon measure, and pure sulphurets of silver studded with free gold in much larger pieces. We could not find a piece of rock with any solidity that was not either full of free gold, or partitioned off with myriads of silver sheets, or made up of sulphurets of silver and free gold. It must not be inferred from these remarks that the whole ledge is of this character of ore—but we do mean to say that it contains tons of it, and that so far as human sagacity can force, will continue its present yield of pure metal. The decomposed quartz and vein matter is very rich in free gold, some of it yielding as high as forty dollars to the pan. Visitors to the Paris Exposition of 1867 will see sights of native metal that will substantiate all we have said, and New Yorkers will soon have the evidence in their city. We've made no attempt to more than generalize the nature and value of this mine.

In regard to the failure of Moore & Fogus, the public belief seems to be that it was owing to the dishonest management of the officers in charge of the mill and mine, which of themselves are paying institutions. The creditors representing indebtedness to this amount of \$200,000, are about negotiating a purchase of the Oro Fino and Morning Star ledges; also, the mill property. A short time before the failure, it had been reported that the property had been sold to an English company, through a New York banker, for one million of dollars. A letter to the *Marysville Appeal*, says the aforesaid company failed, however, to "come to time" on Sept. 1st.

Same paper of the 25th of August, says: Probably the richest mining claim in Idaho is situated at the head of Blue gulch, and is owned by Albert Young, J. Colehower and others. It consists of twelve hundred feet in length by forty feet in width, and is from twenty-two to thirty feet in depth—a washed gravel to the bed-rock. In many places as high as \$2.50 to the pan can be obtained; and a cent and upwards in even the poorest of it. Our informant washed out from one pan seventy-five cents, and the owners seemed disappointed at so small a result. They have sent on for hose, galvanized iron pipes, nozzles, etc., for a hydraulic, to be erected and ready for operation early next season.

The *World* of Sept. 1st, says that \$108,745 was the amount of gold dust shipped from the Pioneer office of Wells, Fargo & Co. in June, July and August.

The *Salesman* (Ada county) of the 4th says of the Yuba district in Altares county: The "Northern Mining Company" have their mill nearly ready to run: will start about the middle of this month with ten stamps. They are going to start on Empire and Leonora rock. A letter is published stating that placer diggings had been found on Green River. The writer thinks it will be a very extensive mining district, and will probably pay from \$8 to \$15 per day. It is forty miles north of Lander's road leading from the South Pass to Snake River, and one hundred and fifty miles east of Taylor's bridge on the Snake.

MONTANA.

The *Post* of 1st inst., says: We learn that Dr. Hopkins, at Bannack, is making astonishing developments on the Dacotah, which must now be one of the best gold bearing quartz lodes in Montana. Specimens of the rock have been left at this office. Quite an excitement has been created, recently, at Bannack, about the new discoveries on Salmon river, or Deadwood Basin, which is said to be about eighty miles from that place. Parties who represent that they have visited the new mines, say that the basin is about thirty miles long, varying in width from five to ten miles, and that gold has been found in all parts of it, and that five hundred men are now at work prospecting them.

The *Republican* of August 30th, has the following: At Farrar Brothers' mine, in New York gulch, \$530 were cleaned up on the 18th inst., from six tons of rock, taken from the lode known as Excelsior No. 2. Two new mills, one twelve, and the other of twenty-four stamps, had arrived for the St. Louis and Montana company.

COLORADO.

The *Denver News* of September 5th, has the following: We have received from Mr. E. L. Bright a specimen from the Union Lode, near Golden Gate. Mr. B. showed us a lump

of pure copper weighing five ounces, which he had smelted from one pound of the crude ore. The Nonpareil Mining Company, which owns property in that vicinity, received as the result of an assay from one of their lodes, sixty-five per cent. in copper.

The same says of the Snake River mines: The mountains all about the head of Snake River and its branches appear to be a perfect network of silver-bearing lodes, and this abruptness of these mountains are peculiarly adapted to an economical working of the lodes, as comparatively short tunnels must strike the lodes at a great depth from the surface. Wood and water are abundant. A very large number of assays of the ores from this district have been made, showing their immense richness. We trust that preparation will be made during the coming fall and winter for the erection of reducing works in the early spring.

UTAH.

The *Vedette* of September 13th says: We have received a call from Mr. W. Gibson, who is operating in the Stockton mines. He has erected a smelter with a capacity of 600 pounds a day. Nine runs have been made, of a hundred pounds each, and 300 pounds of metal were obtained. The result of an assay by Messrs. Bohm & Molitor is \$228 of silver to the ton, the remainder being nearly pure lead. This furnace is constructed with the fire-stone found at Stockton, and works admirably. The cost of the furnace was \$300. It requires three men to work it, and uses two cords of wood to the ton of ore, no coal being required. Ore is delivered at the furnace for one dollar per hundred, and wood for six dollars per cord. Mr. G. will immediately put up a cupel furnace, so that inside of twenty days he will be turning out silver bricks. General Connor's machinery will be at Stockton within a few weeks, and the large furnace which is being erected by Jas. Finnerty is rapidly approaching completion.

BRITISH COLUMBIA.

It was reported that gold quartz yielding \$3,286 to the ton had been discovered on McCulloch Creek, Big Bend. The miners at Big Bend assert that the dispatches in the parliamentary Blue Book, giving glowing accounts of the mines, are forgeries, because a gentleman in his position would not lend himself to such falsehood. The Nanaimo Coal company had 15,000 tons of coal on the bank, and no sale. Work in the collieries had been suspended.

MICHEL'S AMALGAMATOR.—This amalgamator, as it is called, is a pan designed for pulverizing gold and silver-bearing ores, and, at the same time, to amalgamate and save their precious metals. This pan is quite novel in its construction; in fact, it is so unlike anything else of the kind, that we feel utterly unable to describe it without an accompanying illustration. It has been the aim of the inventor to combine in one machine both a grinder and concentrator, and which, at the same time, shall be continuous in its operation. This Mr. Michel has endeavored to accomplish, according to our recollection of his plan, the drawings of which we saw some six months ago, by surrounding the pan with a kind of a circular trough, filled with still water, over which the pulp must flow in effecting the discharge of its surplus water. The design is to settle all heavy particles of sand or metal in the bottom of this trough, while the lighter and coarser particles flow to waste. It will be seen from the following paragraph, which we clip from the *Nevada Gazette*, that this pan has recently been subjected to a practical trial, in company with other pans, at this Allison Ranch mill, in Grass Valley:

A pan invented by Justin Michel, of this city, and now in operation at the Allison Ranch mill, it is believed, approaches nearer perfection, in this respect, than any other heretofore in use. Perhaps no man in California has had better opportunities for testing and judging the merits of the different inventions for separating and saving gold than Philip Galloway, superintendent of the Allison Ranch mine. Galloway, for some time past, has been engaged in a series of experiments with "Michel's Grinder, Amalgamator, and Separator Pan," and gives it as his opinion, after a thorough and impartial trial, that this is by far the best pan for working sulphurets or tailings that has yet been invented. He has had the advantage of being able to compare this pan with several others now in use in their mill, and he has found it superior to them all. Coming from the source they do, these statements are of significant importance to those whose interests are affected by the quantity of gold saved and quicksilver retained in the grinding process. A pan that would save only five per cent. more of the precious metals than its competitor, would be a great desideratum.

Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

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OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. O. P. Truesdell will act as our Corresponding Agent and Solicitor in the interior of this State, from this date, August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.

Mr. J. N. Hudson, is authorized to solicit subscriptions, advertising, etc., for the MINING AND SCIENTIFIC PRESS, in San Francisco, and to receipt for the same.

The Agency of Chas. A. Russell and Erwin Zimmerman, for this paper, ceases from this date. Sept. 8th, 1866.

SUBSCRIBERS who do not receive the MINING AND SCIENTIFIC PRESS in due time, are requested to inform the publishers.

San Francisco:

Saturday Morning, Sept. 22, 1866.

NOTICES TO CORRESPONDENTS.

OWING to the great and rapidly increasing amount of our correspondence, consisting largely of queries relating to various interesting points connected with Mining and Metallurgy, we find it indispensably necessary, for want of space, to confine our replies in future chiefly to a series of brief notices, which hereafter will appear regularly under the above caption.

X. Y.—Dry crushing, as described by those who have witnessed the recent trials of the resuscitated Ryerson process, at Bear Valley, is a very slow, tedious, and, consequently, expensive mode of reducing ores to a finely divided state. The advantage of dry over wet crushing ores, to be afterwards reduced or amalgamated in the manner described by the use of superheated steam, has not been fully established. The accounts of the trials at Bear Valley bear strong evidences of inflation, to use the mildest phrase. For instance, it is reported that one of the great aids towards the extraction of the gold is produced by using superheated steam, at a temperature sufficiently high to sublime mercury, say about 700°, the vapor of which is condensed at the top by an iron plate constantly kept cold by means of water; and when reduced to the liquid form, it is anticipated will descend by its gravity, and so amalgamate with any free gold which may be left. One great misfortune for this process must be that when the temperature of the vessel and contents is raised sufficiently high to sublime quicksilver, it parts from the amalgamated gold, leaving the latter in something like its primitive metallic form. Superheated steam, even at 800° or 900°, in a close vessel, will not desulphurize pyrites to the extent desired. Taking the above facts into consideration, and coupling with them the circumstance that the "Pine Tree," from which the ore is said to have been derived, does not assay, on an average, anything like thirty dollars per ton, we are inclined to suspect that the accounts given of the experiments you refer to are anything but impartial, and should be accepted, as they have been by us, "*cum grano salis*."

ENQUIRER, SHASTA.—The ore found in Montana and Idaho are very varied. The celebrated Candle-Box lead has primarily consisted of a mixed sulphuret of silver and antimony, which, by natural decomposition, has become partially converted into metallic silver. Other varieties are largely mixed with copper; amongst the richest of this class is one principally consisting of the red oxide of copper, intermixed with variable proportions of the sulphurets of copper and silver, and occasionally with gold also.

ONE WHO WANTS TO KNOW—HUMBOLDT. Lead in various forms, and in ores of different species, has from time immemorial been used to extract gold and silver from the most complex and difficult ores. There cannot, therefore, be anything new in the so-called "Lyon" process, unless the lead or its compounds are employed in a peculiar furnace, or in some particular manner. We understand, from Doctor Macgowan, that the Chinese procure their Sycee silver in this manner.

[Editorial Correspondence.]

THIRTEENTH ANNUAL STATE FAIR.

New entries were daily made at the Pavilion, up to the closing day of the exhibition, and the general interest manifested by the public increased from day to day during its entire continuance. The Fair was certainly a financial success, even though it might not have reached that character, as an exhibition, which its managers and friends desired to see it attain. The deficiencies, in the latter particular, were certainly in no wise attributable to the management; but must be charged exclusively to the indifference manifested on the part of those who should have availed themselves of the opportunities offered by the Society, to place their inventions and improvements, their manufactures and productions, before the public. Inferior, however, as was the general aggregate of display, it was gratifying to notice that the pioneers in all the most important industrial enterprises were there with the results of their enterprise and ingenuity.

Chief among the manufactures, was the display of Mr. W. H. Rector, of the Oakland Manufacturing Company, who made a fine exhibit of the first cotton manufacture ever turned out in the State. The mill of this company wove its first yard of goods on the first day of September last, since which time the works have been in constant and successful operation. Its capacity is about 30,000 yards of 4-4 sheeting per month. Of course the most of their raw material has to be purchased abroad; but they were enabled to exhibit several specimens of goods manufactured of California grown cotton. It was remarked by all observers, that the appearance of the goods made from home-grown cotton, was decidedly superior to the same fineness of goods manufactured from foreign material.

This company will soon add to their works the requisite woollen machinery for producing jeans, linseys, flannels, etc. They also afford a home market for all the cotton which can be grown, at the present time, on the Pacific coast. This was one of the most important and suggestive exhibitions at the Pavilion.

The above company also exhibited several bales of cotton twine of their own manufacture, which was pronounced fully equal, if not superior in evenness, strength and manner of wind, to any which can be imported. This may also be regarded as quite an important enterprise, from the fact that our market has for a long time been compelled to put up with quite an inferior article, furnished from abroad at an exorbitant price. The first premium was awarded to Mr. Rector, both for his woven cotton goods, and for his twine.

I. C. Mayer & Sons, of the Pacific Excelsior Mills, of this city, displayed six bales of cotton wadding and batting, of different varieties and qualities, manufactured from California cotton, which they are prepared to supply at cheaper rates than the same goods can be imported from the Eastern States. The quality of this batting was much admired and commented on by the ladies, especially, on account of its clean, neat and durable appearance. The imported batting is usually made chiefly from the waste of the Eastern factories, while this is made directly from the unselected cotton. The great superiority of the San Francisco batting was therefore most especially apparent to every one. The enterprise is an important one, and cannot fail to prove a pecuniary success. Samples of the new cotton, in the holls, from which both the woven goods and batting were made, were exhibited by the side of the goods themselves. The first premium was awarded for this exhibition.

Next, if not equal in importance to the cotton exhibit, was the elegant and suggestive display of L. Prevost, of San Jose. This exhibition consisted of a perfect epitome of silk culture, from the earliest stage of feeding the worms on the mulberry leaf, their gradual growth, forming the cocoon, hatching the eggs, the reeled silk, and, though somewhat late in the exhibition, a specimen of woven silk from California production. Mr. Prevost exhibited cocoons raised from eggs furnished by him, from

a great number of parties in various parts of the State.

The piece of silk exhibited was manufactured by Messrs. Meyer & Neumann, who are just establishing a silk factory in this city. It is the first piece of silk manufactured in this State; and is a little over one yard in width, and about a yard in length. It is of the kind of goods known as "rep," and designed for ladies' dresses. It is, moreover, the first piece of this kind of goods ever made in the United States.

Too much credit cannot be given to Mr. Prevost, for the interest which he has taken in introducing this branch of industry into California. He has been indefatigable in his exertions, not for his own private gain, but often in direct conflict therewith. He is really doing the work of a philanthropist, and has entered upon it with a degree of enthusiasm and self abnegation, which will indissolubly connect his name with the establishment of a business on this coast, which bids fair at no distant day to flourish in greater perfection, and to assume a magnitude unsurpassed by any other locality on the globe, engaged in this branch of business. A special premium was awarded to both Mr. Prevost and to Messrs. Neumann & Meyer.

Among the new inventions exhibited, was the grinding and amalgamating pan, by Mr. J. S. Crall, which was fully alluded to last week.

Next, perhaps, in importance, was the Reversible Side-Hill Plow, invented and exhibited by Mr. John Mott, of Danville, Contra Costa county. This plow was illustrated in our issue of July 21st. It attracted much attention from those interested in agricultural pursuits, and fully sustained all that is claimed for it in a practical trial, to which it was subjected before the appropriate committee. We have repeatedly described the principle and working of this plow. Suffice it now to say, that it is fast winning its way into universal use, not only for side-hill work, but also for ordinary level ground plowing. The conception of this improvement is the result of much study and cost of time and labor on the part of the inventor, who is a practical adept at this important implement, the thorough and accurate working of which is the foundation of all agricultural success. Two first premiums were awarded to Mr. Mott; one for the best stable plow, and the other for the best side-hill plow.

Messrs. Hill & Naught, of Marysville, exhibited their newly-invented Broad-Cast Grain Sowing Machine, with revolving harrow attached. This machine was fully described and illustrated in our issue of the 8th inst.; but no description can give anything like such an accurate idea of its workings as a personal examination of the machine itself. We noticed that the machine attracted much attention from those interested; and all, so far as we could learn, expressed the utmost confidence in its capability to perform its work in quite as rapid and effective a manner as is claimed for it. The great difficulty with broad-cast sowing machines, is to make them do their work evenly, and at the same time be made adjustable to the different sizes and variety of seed. A glance at the construction and method of its operation will readily convince any practical man that this machine can do all that is claimed for it. It is readily adjustable for any sized seed, from a mustard seed to the largest grain; and the stirers are so arranged as to render an even distribution of the same over the ground a moral certainty. No opportunity is allowed for packing. The first premium was awarded to this machine.

Rudolph & Braun exhibited a new gun-lock, of their own invention, which attracted no little attention from all interested in firearms. The great advantage of this gun-lock over all others, grows out of the fact that while it is equally as strong and effective, it only occupies about half the depth of wood of any other. The construction of the locks now in use require so much cutting away of the wood as to render the gun-stock extremely weak. It will be recollected that, gun-stocks always break at the very place where the locks are set in, because that is necessarily the weakest point. Some idea of the superiority of this lock may be inferred from the fact that a double-barrel gun, fitted with two of these locks, has fully three times the thickness of wood at the weakest point, which the same gun would have fitted with the ordinary lock. The inventor, while in Washington, recently submitted

his invention to the Chief Examiner of United States Ordnance, and other parties interested officially and otherwise in military equipments, all of whom expressed themselves highly gratified with his invention, and assured him that it would most assuredly be introduced into all firearms hereafter manufactured for government use. The advantage of such an improvement, in time of war, can scarcely be estimated, considering the rough usage necessarily attendant upon firearms, either in camp, on the march or in battle. As a piece of mechanical skill, it takes front rank for utility. It gives fully double the ordinary strength to the gun at its weakest point, while not a particle of the efficiency of the old gun is lost by the application of this new invention. It is no more likely, and if anything less liable, to get out of order than the lock ordinarily in use. Our readers will not be surprised that it was awarded a special premium. Perhaps it may not be out of place here, to state that each and all of these important inventions have been patented through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

THE EXCELSIOR AMALGAMATOR.—We don't know of any better or more appropriate name by which to designate the new amalgamator recently invented by Messrs. Sennitz & Knowlton, of Sacramento. It is a gold-saving machine, which we have already alluded to, and a working model of which we examined while in Sacramento last week. This machine is the result of much thought and experiment, and is quite a novelty in the way of gold-saving machinery. It consists essentially of two or more shaking tables, placed in a line endways, one above the other, like broad stairs. The tables are long boxes, with each end turned up and bent inwards, like the toe of a skate. The sand is fed into one end of the uppermost one, passes gradually, with a shaking motion, to the opposite extremity, at which place it is discharged through a circular opening about an inch and a half above the bottom, into the next table below, and so on to the second and third, if desired; although the experiments thus far render it very conclusive that but two tables will be needed in actual practice. The tables are covered with a stationary covering, to the underside of which is attached a network of projecting teeth or rifles, the same being arranged in pairs, each pair representing a common staple, with square instead of round corners. These stationary teeth project downward so as to just clear the bottom of the pan or table, and as the latter works backward and forward, with a sliding motion, while the former are stationary, the result is not only to prevent the sand from packing, but also to keep it in such a constant state of agitation as to repeatedly bring every particle of the same, with its golden contents, into intimate contact with the quicksilver.

A great number of experiments on refuse tailings, which have passed through the best pans, amalgamators and settlers in use, we are informed, have yielded up a very considerable amount of gold to the searching action of this new machine. The results which have been shown us, as obtained from the model machine, are really astonishing. This machine has the merit of not conflicting with any of the pans now in use, as it is used neither as a triturator nor separator of sulphurets; although, if it works as well in extensive practice, as the working of the model would seem to indicate that it will, it must avoid all necessity for settlers. The quartz must be ground, as usual, in pans, and the sulphurets collected by a concentrator, after both of which this amalgamator should be used.

A large machine was put in operation the first of last week at the Golden Rule mill in Placer county, and the report of its first clean-up, as compared with previous working, are quite as astonishing as the reported efficiency of the model which we examined.

REMEDY FOR THE BITE OF RABID ANIMALS. Mr. Youatt, a famous veterinary surgeon, who has been bitten several times by rabid animals, relates that crystals of nitrate of silver rubbed into the wound would positively prevent hydrophobia in the bitten. True or not it is easily tried, and is not dangerous.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, a selection of the most important, new and important inventions, also, the list of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

SADDLE.—Clara A. Bartlett, Oakland, Cal., claims an improvement in a side saddle which consists in having one of its horns or cranked thereon and attached thereto, so as to be operated substantially in the manner described and for the purpose specified. Patent issued during the week ending August 7th, 1866.

BODY CONFORMATORS.—S. O. Brigham, San Francisco, Cal., claims an apparatus or implement for the cutting and fitting of ladies' dresses and other garments, which when applied to the person will adjust itself thereto, and is provided with any suitable means for indicating the line or lines of the seams for the garment to be cut, substantially as described. Patent issued during the week ending August 7th, 1866.

WASHING MACHINE.—Amos Durant and Henry Gresson, Stockton, Cal., claim the application to the washing machine and combination of certain levers, working from different centers, and connected with a plunger and worked by a reciprocating motion, as set forth. Patent issued during week ending August 7th, 1866.

MODE OF TINTING PHOTOGRAPHS, ETC.—Chas. Elveena, San Francisco, Cal., claims a new mode of tinting surfaces for use in the arts, by the action of smoke or fumes, within a closed chamber. Patent issued during week ending August 7th, 1866.

SAFETY CAGE FOR MINES.—John Evans, Virginia City, Nevada, claims the employment of a lever and spring bar, in connection with a friction roller and guide pin, or their equivalents, arranged substantially as described and for the purposes set forth for the more safe and convenient management of safety cages in mines. Patent issued during week ending August 7th, 1866.

DRILLING MACHINE.—R. A. Thomas, Damascus, Cal., claims, 1st, The combination in a machine for drilling rock in drifts and tunnels; 2d, a stanchion post with a bar to support the feed screw and drill, and an adjustable box constructed and arranged substantially as described. 2d, he claims a square box fitted to the stocks of the drill and feed screw, substantially as described, so that they can be connected at pleasure. Patent issued during week ending August 7th, 1866.

BIDGE WATER GAUGE.—William P. Kirkland, San Francisco, Cal., claims, 1st, Aprons applied to a perforated star board sides of a box, substantially as and for the purposes set forth. 2d, A disk of glass or other suitable material, in combination with a float and index rod constructed and operated substantially as and for the purpose specified. Patent issued during week ending July 31st, 1866.

ATTACHING BURNERS TO LAMPS.—Warren P. Miller, San Francisco, Cal., claims the introduction of a grooved shank, with socket and springs or their equivalents, when made to operate substantially as set forth, and in the manner described. Patent issued during week ending July 31st, 1866.

QUARTZ CRUSHER.—Henry Pearce, San Francisco, Cal., claims the construction of a conically-shaped crushing mill, with an eccentric motion as described, for the purpose and in the manner set forth. Patent issued week ending July 31st, 1866.

ORE AND TIMBER CAR FOR MINES.—George Williams, Sterling Ferry, Colorado: 1 claim, 1st, The construction of the doors with a wider portion, b, to adapt them to be supported by the sides of the car, substantially as described. 2d, A car constructed with end doors adapted to be folded over the top for the purpose of converting it into a timber car. 3d, In combination with the above a trigger, C, provided with an inward projection adapted to be tripped by the post, D.

ELEVATOR.—George Williams, Sterling Ferry, Colorado: 1 claim, 1st, The elevating bucket, E, with the discharging lever, F, F, applied to the bottom of the bucket, substantially as described. 2d, And in combination with the above I claim the deflecting rollers, D, and curved guideways, K, K, arranged and operating substantially as described. 3d, The adjustable sections, J, employed to enable the bucket to be discharged at different heights, substantially as described. 4th, The binged chute, O, in combination with the levers, O2 and p, operating substantially in the manner and for the purpose described. 5th, The bucket, E, in combination with the hook, W, or its equivalent, the roller, U, substantially as described.

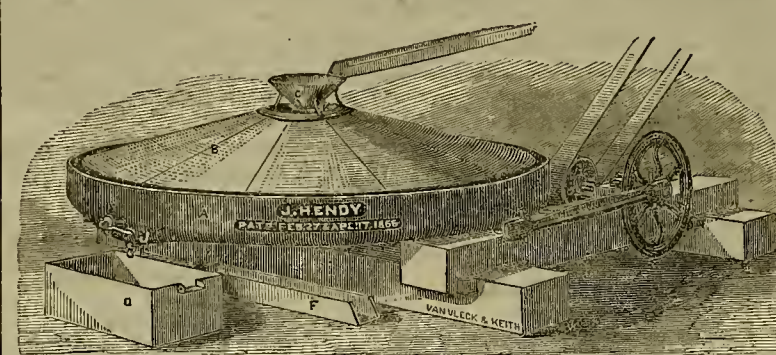
REDUCING OXYD OF LEAD.—Thomas Taylor, Washington, D. C.: I claim, 1st, The protoxyd of lead as a flux, in the reduction of lead dross, substantially for the purpose and in the manner herein set forth. 2d, The use of iron as a deoxydizer of the protoxyd of lead, substantially for the purpose and in the manner herein set forth.

Patents can be obtained for citizens on this Coast, through the Mining and Scientific Press Patent Agency, in one half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. DEWEY & CO., Patent Agents, 503 Clay street, San Francisco.

HENDY'S PATENT IMPROVED CONCENTRATOR.

We here give the first illustration of J. Hendy's latest pattern of improved concentrators. Its variation from his former plan consists in the manner in which the body of the concentrator is supported, doing away with the upper frame-work and discharging the apparatus for raising the distributor, as the hoisting of the same is rendered useless by the concentrator being self-discharging. The machine here represented is fastened to and supported by an upright standard underneath, which is held and worked in a deep step. The motion is imparted by either one or two connecting rods, adjusted to half-crank pins. The engraving itself well illustrates the new machine to the eyes of those familiar with the working of this class of gold and salphuretted savers, while those less acquainted with their operations are referred to the last page of to-day's issue for further description and illustration.

Mr. Hendy's new concentrator can be seen in working operation at the Union Foundry, in this



city. The inventor will continue to supply the former style of machines to those who may prefer them on account of their having been long and successfully used. Two of the old pattern were purchased during the past week for Arizona, by Messrs. Reed & Tyson.

THE ATLANTIC CABLE.—Before the great Atlantic cable had been in operation two weeks, and although it was found to work as well as the most sanguine of its originators had anticipated, it was, nevertheless, found to be totally inadequate to perform the work required of it. So great was the demand made upon the managers, that it would soon have been found necessary to greatly increase the already high rate of tariff fixed, in order to put a stop to the transmission of trivial messages of no business importance, but which must, nevertheless, take their turn to the exclusion of more important matters, had not the broken cable been fortunately picked up and secured, thus giving as two wires, one of which will be constantly occupied in transmitting messages to Europe, while the other will be exclusively devoted to return telegrams. The time is not far distant when another pair of wires will be found indispensable to transact the business which must continue to increase, as does all kinds of business, in proportion to the facilities for transacting the same.

FINE MARBLE WORK.—Our friends in the country, as well as those in the city, in want of good marble work, such as mantels, monuments, tombs, plambers' slabs, etc., will do well to call on Mr. John Daniel, 408 Pine street, where a large assortment of all the above kinds of marble manufacture are kept constantly on hand. Individuals calling upon him personally, or sending their orders from a distance, can always rely upon having them promptly and faithfully attended to. Mr. Daniel is an old advertiser in the columns of this paper, where his card may always be found.

Mr. A. T. Stewart has contracted for the window glass for his new house in New York at \$50,000.

A DRY DOCK FOR SAN FRANCISCO.—Work will be actively commenced on the proposed dry dock at Hunter's Point, on the first day of next month. The dock will be excavated out of solid rock, and will be 400 feet in length by 100 in breadth, and deep enough to dock a vessel drawing twenty-four feet of water. The cost of the work will be about \$400,000, and will be conducted under the direction of Col. A. W. Von Schmidt, the well known civil engineer of this city.

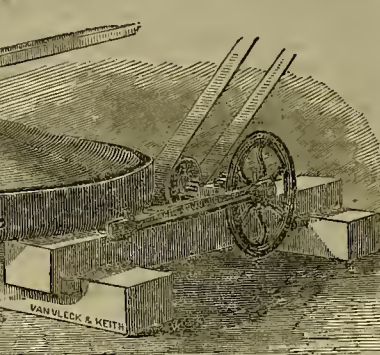
ENGRAVED TO ORDER.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices. DEWEY & CO., Patent Agents, Publishers and Job Printers, 503 Clay at

STRANGERS visiting San Francisco can use the Burglar Proof Vault of the CALIFORNIA BUILDING, LOAN AND SAVINGS BANK, California street (one door from Sansome street), for the temporary deposit of Gold Dust, Coin, Bonds, etc., at a small monthly rent, according to the value of the property deposited, for which the Company will be accountable.

9v12-1m THOMAS MOONEY, President.

TOWNE & BACON, Print—
Stock Certificates,
Assessment Receipt Books,
Transfer Journals,
Circulars,
Hand Bills,
Cards,
Billheads,

And every kind of Job Work that may be desired.
A NEW ARTICLE OF TAGS FOR GROCERS' USE.
16v12 536 Clay street, opposite Leidesdorf's.



OIL! OIL!! OIL!!!
—OUR—
MACHINERY OIL
IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

Dell, Cranna & Co.,
511 1-2 and 513 Front street, San Francisco
IMPORTERS OF
COAL OILS AND LAMP STOCK.
2v12-3m3p

Brodie's Patented Improvements
FOR THE TREATMENT OF
Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.
The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1.—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... \$600
No. 2.—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850
No. 3.—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Raywhite Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

BRODIE'S PATENT IMPROVED OREMAN ANALOGATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above Improved Barrel are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry-Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

BRODIE & RADCLIFFE,
Express Building, 402 Montgomery street,
San Francisco.
12v13lf

J. B. CONE. **E. F. BOWMAN.**
Employment and Business Agency.
J. B. CONE & CO.,
Supply Male and Female Help, sell Farms, Mines and places of business, negotiate loans, and procure partners. Orders sent by mail or express will be promptly attended to.
J. B. CONE & CO., No. 402 Montgomery street,
12v13lf SAN FRANCISCO.

To Miners and Families Living in the Country.

DR. BOYNTON'S MEDICINE CHEST, is put up in San Francisco expressly for the use of families, and consists of a chest of moderate dimensions, neat in its appearance, containing those household articles, simple remedies, that families always feel like keeping on hand for immediate and common use, and a book of brief instructions, describing their use.

The object in preparing this Chest was not to make doctors, but for the simple purpose of nursing; hence, a majority of the remedies are such as are familiar to nearly all who are advanced in life, and the book is simply a representation of those plain truths relating to the department of the nurse already set forth in more extensive works. It was the object, not to say many things, but to say few things—to simplify and make plain for common use. And in selecting the contents of the Chest, the object was not to set forth something new and wonderful, but those of old and acknowledged worth.

In view of the above facts, physicians have everywhere encouraged the circulation of this chest in unmistakable terms. They recognize the fact that families do not, will not, need not call on them on the occasion of every slight derangement or infirmity. They do not and cannot deny the fact that such obligations of home care rest upon heads of families.

The book gives a description of nearly every medicine in the collection, their use, and their component parts, so that every person may know what he is receiving into his stomach or applying to his person. This openness and frankness is regarded by the best practitioners, and all considerate persons as justice, more than policy. The universal conviction of the more thoughtful is, that that which relates to our health and physical well-being in this life should, above all things, be known, and not kept in the darkness of secrecy.

In introducing this chest in the country, we always first submit it to the criticism of practicing physicians, and feeling the importance and seeing the necessity in this sparsely settled country of home-nursing, and seeing the adaptability of this chest, physicians in San Francisco, Sacramento, Stockton, Knight's Landing, Cheyenne, Marysville, Colusa, Oroville, Lodi, Folsom, and Auburn, have given it their hearty sanction. Seeing the necessity on this coast of people relying upon themselves in such matters, physicians in this State have remarked: "If I could choose but one for a family, I would every time choose the nurse instead of the physician." "If families would get a collection of simple remedies, with plain instructions for their use, they would do away with half the doctoring." "All families should possess themselves of a collection of common remedies, with plain instructions for their use." "I would like to see the chest in every family." "It is a convenience." "It is useful." "Much sickness and much expense might be saved by such home care."

We subjoin the following statistics from Sutter County, California:

"The undersigned have had Dr. Boynton's Medicine Chest in their families for the last few months, and willingly state that they regard it as a wise provision, strictly practical and highly useful." * * * *

Every person having the chest in the above named county has signed the above article. The publishing of the names being unnecessary, we withhold them and save space.

The undersigned have known Dr. Boynton's Medicine Chest for the last few months, and regard it as a wise provision, and highly useful in every family. The medicines being put up with instructions, its utility, convenience, and great economy are unquestionable.

Signed by Judge Hurlbut and 45 others.

STATE OF CALIFORNIA, } ss.
County of Sutter, }
I, C. E. WILCOX, County Clerk in and for said County, hereby certify that I am personally acquainted with a majority of the individuals whose names are subscribed to the foregoing certificates, and that they are good and substantial citizens of said county.

Witness my hand and official seal this 27th day of December, A. D. 1865.

C. E. WILCOX, County Clerk.

Agents wanted in every County to sell this Family Chest. Their compensation will be a liberal commission on all sales. The Agent should be a resident of the district which he is to canvass, and accompany his application with good references, and of this city if possible.

We can give further particulars when desired. All letters should be addressed through the post office, to
E. NORRIS,
12v13cow61p San Francisco.

REMINGTON'S ARMY.
Agency, 310 Washington st., San Francisco.
PRICES REDUCED!

These arms have been preferred by the United States Government, and stand unequalled by any in the world. Revolvers, Army, Navy, Belt and Pocket, Double and Single Action; Repeaters, and vest-pocket Pistols, with copper ammunition; Police Revolvers, a new model, navy size, bull, 4 1/2 to 6 inch barrel; Rifle Cases—an entirely new Arm—having a range and accuracy equal to a rifle, and a most perfect Case. All the new models for sale very low.
12v13lf
ALBERT E. CRANE.

Just Published.
THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS OF THE NERVOUS SYSTEM AND REPRODUCTIVE ORGANS, to be had by addressing and inclosing twenty-five cents, postage stamps, to Secretary PACIFIC MUSEUM OF ANATOMY, Montgomery street, San Francisco. 12v13lf

Good Advice.—John H. Prentice, in his valedictory on retiring from the editorial chair, which he had filled for forty-two years, has the following:

"No man should be without a well conducted newspaper. He is far behind the spirit of the age unless he reads one, is not upon an equal footing with his fellow-man who enjoys such advantages, and is disregarding of his duty to his family, in not affording them an opportunity of acquiring a knowledge of what is passing in the world, as the cheapest possible teaching. Show me a family without a newspaper, and I venture to say that there will be manifest in that family a want of amity of manners, and indications of ignorance most strikingly in contrast with the neighbor who allows himself such a rational indulgence. Young men, especially, should read newspapers. If I were a boy, even of twelve years, I would read a newspaper weekly, though I had to work by torchlight to earn money enough to pay for it. The boy who reads will learn to think and analyze; and, if so, he will be almost sure to make a man of himself, hating vicious indulgence, which reading is calculated to heget a distaste for.

AN INTERESTING CASE to ship builders has just been decided by the Secretary of the Treasury. A vessel arrived at Galveston, Texas, having for her cargo the sections of two iron steamers, built in Glasgow, Scotland. The master of the vessel was fined \$1,000 for non-conformity with the registry law, and, refused admittance for the cargo of his vessel. The Secretary, however, directed that collector to admit the cargo as other merchandise, and also ordered marine papers to be granted the steamer, establishing the precedent of allowing vessels built in foreign Governments the benefit of our registry law.

The New Bedford (Mass.) *Standard* says the petroleum street lamps in that town explode occasionally, especially during the hottest evenings. The oil runs over from the wicks, takes fire outside of the lamps, heats them till the solder gives way, and the whole explodes.

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.
WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost than any wheel in use. There are over 1,500 running, giving universal satisfaction.
KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10y-4f

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved pattern, for vessels of all classes. Also, Ship Plumbing done.
M. PRAG,
8v13-ly Stove Store, No. 125 Clay street, below Davis.

T. G. DURNING. J. F. FISHER.

PACIFIC FILE FACTORY,

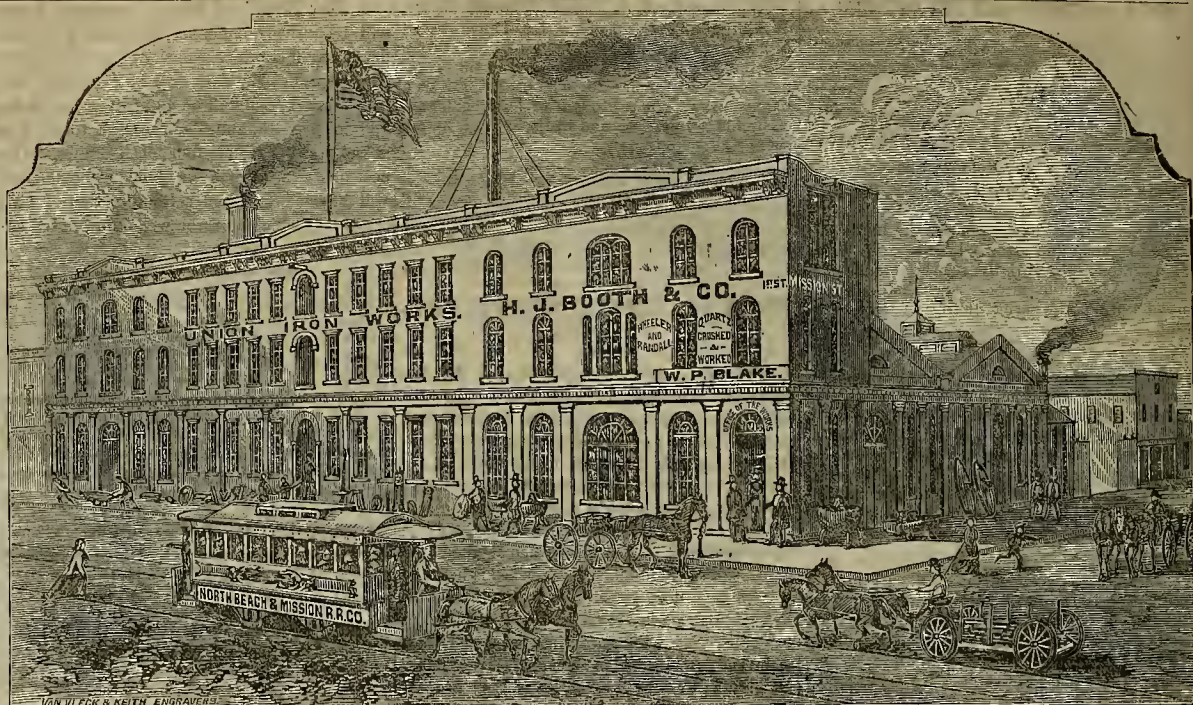
No. 53 Beale Street,
Between Market and Mission streets, San Francisco.

FILES RECUT AND WARRANTED AS GOOD AS NEW, or no charge. The only establishment in the State. We also manufacture Reamer and Mower Sections.
8v13-ly **DURNING & FISHER, Prop'rs.**

LEWIS COFFEY & RISDON,
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed in order, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

THE MINING PRESS comes loaded with a rich variety of mining intelligence, and all sorts of scientific interesting matter.—[Amador Ledger.]



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, Serew and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Slide Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS.—Locomotive, Flat, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Frater's concentrators, Wadley's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Eureka Iron Soregus, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRISCOTT. IRVING M. SCOTT.

H. J. BOOTH & CO.

Vulcan Iron Works Company

[ESTABLISHED 1850.]

First, Natoma and Fremont Streets.

IRON FOUNDERS, Steam Engine and Locomotive BUILDERS,

Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of new shops on Fremont Street, doubling the capacity of the original establishment. Their facilities for turning out machinery promptly and efficiently, are now unequalled in the State. Their Boiler Works have also been enlarged correspondingly.

The Company are prepared to execute orders for all classes of Machinery and Boiler Work, such as

Mining, Steamship, and Steamboat Machinery,

Railroad Machinery, Flouring Mills, Locomotives, Quartz Mills, Car Trucks, Sugar Mills, Car Wheels, Saw Mills, Housings and Irons; and

Manufacturing Machinery of Every Kind.

Sole Manufacturers of

HEPBURN & PETERSON'S REDUCING PAN AND AMALGAMATOR.

BEATH'S AMALGAMATOR.

HESE & MOORE'S IMPROVED HOWELL QUARTZ CRUSHER.

BAUX & GUILD'S AMALGAMATOR AND SEPARATOR.

FAUCHERY'S QUARTZ GRINDER AND WATER WHEEL.

JONVAL'S IMPROVED WATER WHEEL.

LEFFEL'S AMERICAN DOUBLE TURBINE WATER WHEEL.

STEVEN'S PISTON PACKING RINGS.

They have also a large assortment of Patterns for Pumping and Hoisting Machinery, Gearing, Pulleys, Water Mill Irons, Hydraulic and Screw Presses, Retorts, Furnaces, Grate Bars, House Fronts, Ornamental Fence Posts and Piling, Stove Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best Hard Iron. Quartz Screens of Russia Iron Punched to Order. 27

GEORGE T. PRACY, MACHINE WORKS,

Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL

And Quartz Machinery, Printing Presses,

—AND—

MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

Special attention paid to Repairing. 8v 4y-3

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST RE-ERECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12-3m

Our Patent Agency.

The PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been organized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

HANSCOM & CO.,

J. O. HANSCOM, H. S. SMITH, T. PENDERGAST, W. W. HANSCOM.

Etna Iron Works!

Southeast corner Fremont and Tehama streets, SAN FRANCISCO.

Practical Machinists and Iron Founders,

MANUFACTURE

STEAM ENGINES,

QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS,

Dunbar's Improved Self-Adjusting

PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,

The best of the kind now in use in this State or anywhere else.

Wheeler & Randall's New Grinder and

Amalgamator,

Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,

Giving greater power, at lower cost, than any wheel in use.

Send for one of our circulars, giving full tables.

All Wheels warranted to give the power as set forth, or the money will be refunded.

Sole makers for this coast of the "Pendergast

White Iron Stamp Shoes and Dies.

None genuine unless obtained from us. Every one warranted.

Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.

19v12

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Mining

Pumps, Amalgamators, and all kinds of

Machinery.

Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco. 3-47

NEPTUNE IRON WORKS,

Corner of Mission and Fremont Streets,

SAN FRANCISCO.

MARINE

Locomotive,

And all kinds of

HIGH PRESSURE

Steam Boilers

MADE.

All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.

All kinds of Sheet Iron and Water Pipe, Coal Oil

Stills, Wrought Iron

Worms, etc., etc.

Manufactured to Order.

Old Boilers Repaired

D. CAMERON.

6v12-ly

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old cylinders, manufactured to order.

Front Street, between N and O streets, 14v11

SACRAMENTO CITY

SAN FRANCISCO

Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,

Manufacturers of

Marine and Stationary Engines,

Quartz Machinery, Saw, Flour and Sugar Mills, Mining

Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—

Wine, Cider, Cotton and Tobacco Presses

of the latest Improved Patterns.

Brodie's Improved Patent WIND BLAST SEPARATOR,

for Dry Crushing; Baux & Guild's Amalgamator and Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston

Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

MACHINERY OF ALL DESCRIPTIONS,

Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.

6v11-ly **DEVORE, DINSMORE & CO**

JAMES MACKEN,

COPPERSMITH,

No. 226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S

Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,

PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to this

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 25v12-3m

Volta's Action.

Messrs. Editors: In an interesting article written for the San Francisco Mining and Scientific Press by Mr. Edward Pique, entitled "Source of the electric current in the Galvanic Battery," I observe reference is made to the following experiment described in Dr. Bird's Natural Philosophy, to prove that the different metals, by mere contact, produce electricity without any exciting fluid whatever:

"Two disks of different metals, when pressed together and suddenly separated, assume opposite electric states."

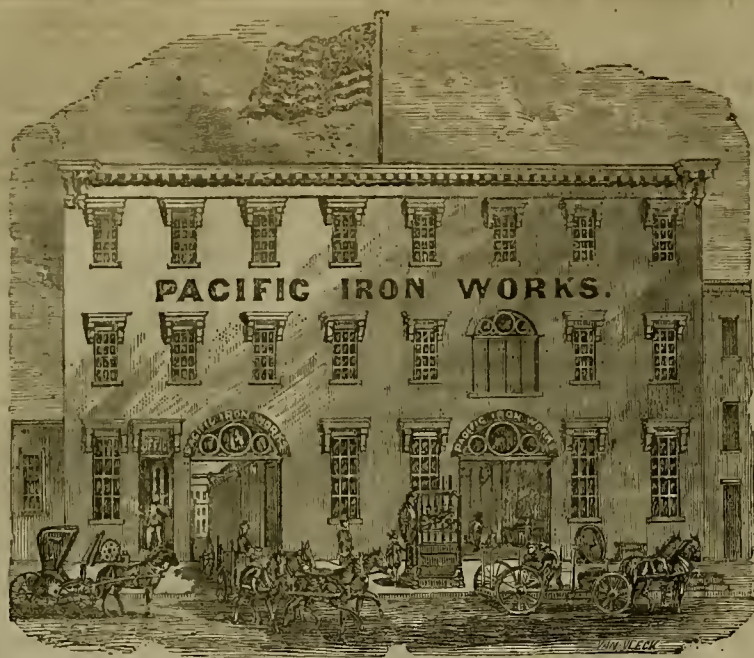
To demonstrate this, take a plate of copper and one of zinc, about four inches in diameter, each furnished with a glass handle fixed in its center; now connect a gold leaf electrometer with one plate, A, of the condenser, allowing the other plate, B, on the condenser to be connected with the earth. Press the copper and zinc plates together, holding them by their insulating handles; suddenly separate and apply one of them to the plate, A, of the condenser; again press them together, having previously touched them with the finger to restore their electric equilibrium, and re-apply the same plate to the same condenser. Repeat this about six times; then draw back the uninsulated plate, B, and the gold leaves of the electrometer will diverge with positive electricity if the zinc, and with the negative if the copper plate has been applied to the condenser."

It is generally understood that electricity may be excited, or called into activity by mechanical action, by chemical action, by heat, and by magnetic influence. Why the above enumerated means should develop electricity, or excite it from a latent or neutral condition is generally conceded to be an open question among philosophers. In the above experiment I think I observe another form of the well known instrument invented by Professor Volta, which he called the "Electrophorus"—signifying "producer of electricity." It consists of a simple disk of resin or other non-conducting material, and a metallic plate of less diameter supplied with a glass handle. Hold the metallic plate by the handle, and bring it in contact with the resin and touch the finger to the plate; then withdraw the finger, remove the plate by the brass handle, when it will be found electric; and by repeating the experiment rapidly a spark will be eventually obtained from the metallic plate, which may be employed to light gas, and for various interesting experiments. This may be aided by first exciting the resin by friction with dry cloth such as woolen, silk, etc. This is sometimes called inductive electricity. In the experiment of the simple contact of the metal and resin, it is possible that the friction of the air as it rushes between the plates when suddenly separated may produce electro dynamic action; and I opine that in Dr. Bird's experiment with two metallic plates the same cause may produce a similar effect. But aside from this—in connection with it, perhaps—I would like to inquire if the thin film of intervening air may not be the exciting fluid or medium which produces the electricity as exhibited by the electrometer, and especially as it is seldom free from humidity or moisture, which must assist the chemical action of oxidation which never can occur without development of electricity.

—[Am. Gas Light Journal.]

A NEW GUANO.—A discovery, which promises to be of the greatest advantage to agriculturists, has recently been made in Bolivia of a new guano, which, according to the testimony of the most eminent agricultural chemists in this country, equals in manurial effect the celebrated Peruvian guano. No accurate estimate of the extent of the beds has yet been attempted, but the supplies would, on a general view, appear to be very great—amplified sufficient to keep all farmers using what are called artificial manures in full supply for many years to come. Sufficient quantities have already arrived in New York, to allow of limited field experiments being conducted upon various crops the coming year.

GROWING POTATOES UNDER STRAW.—The editor of the Rural World says that on a recent trip to St. Clair county, Ill., he saw hundreds of acres of land covered with straw. The ground had been plowed, harrowed and marked off, and potatoes dropped, and then the whole surface covered about six inches deep with straw. The potatoes have no further attention till digging time, when two or three hundred bushels per acre are obtained. The straw keeps the weeds down, and the soil cool and moist. The straw is raked away in the fall, and there lie the potatoes white and clean. The editor also says that the "straw potatoes" bring the highest price in the market.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

International Hotel,

JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
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THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The beds are airy, new, and the rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Terms belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents.

21v12

F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL.

K Street, between Third and Fourth,
SACRAMENTO,

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and finely ventilated. No expense has been saved to make it comfortable and pleasant for guests.

Price of Rooms very low. Meals, 25 cents.

8v12 6m

B. EISENMENGER.

WHAT CHEER HOUSE,

SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals, per week, \$2.50

Board, per week, \$4.00

Board and Lodging, per day, 1.00

Single Rooms, 50

Railroad Ticket Office and Stage Office on first floor.

7v12 3m

A. J. SENATZ, Proprietor.

Rheumatism!!

ANOTHER WITNESS!

SALMON FALLS, June 17, 1865.

H. BOWMAN—DEAR SIR: HAVING HAD A FAIR test of the virtues of RICHARDS' REMEDY FOR RHEUMATISM, I take great pleasure in stating that its effects with me have been even better than its recommendations claim. In 1853 I first heard of the Medicine. I had then been for three years severely afflicted with Rheumatism, and having tried everything I could hear of, without any permanent benefit, I concluded to try this also. On taking the medicine, in three days I experienced great relief, and in one week was entirely free from pain, and had completely recovered the use of my limbs, which had become powerless, so much so that I could not dress myself without assistance. Since that time I have been free from Rheumatism. I have recommended RICHARDS' REMEDY to numerous friends, and in every case it has proved successful. I therefore take great pleasure in recommending it to all who are afflicted with Rheumatism, and especially to all mercurial chronic Rheumatism cases.

Yours respectfully,

ERASTUS PARSONS,

President of the Gen. Grant Mining Company.

RICHARDS' REMEDY is for sale by

H. BOWMAN,

Druggist, Sacramento, 11v13

Price, \$2.50 per Bottle.

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Illuminating, Lubricating, AND PAINT OILS!

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SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of MILL owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not gum, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand.

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THE CALIFORNIA Aerated or Unfermented BREAD COMPANY.

Bakery on Folsom Street,

Between Tenth and Eleventh.....SAN FRANCISCO

Messrs. TAGGART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in partnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit, all orders for their truly wholesome and cleanly Bread. We have a sufficient number of delivery wagons at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.

Through the kindness of the gentlemen of the following named firms we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention:

Order box at C. J. Hawley & Co.'s Grocery, corner Second and Jessie Streets; Rowland & Walker, 647 Clay street; Plumb's Carpet Store, Montgomery street, opposite Lick House; G. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the route-men likewise. We expect soon to be prepared to supply Pastry, likewise the Boston Brown Bread, and Beans of the first quality. Due notice will be given.

The present Company is entirely independent of the former California Unfermented Bread Company, neither of them having been in any way connected with that company.

We would cordially invite the public to make a visit to our new bakery.

4v13-3m S. R. BULKLEY, Business Partner.

RADICAL CURE OF RUPTURE!

Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process, 224 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU

Has his studies and manufactures in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.

He has no connection with any Agency. 8v13-1y1p

Our Circulation.—THE MINING AND SCIENTIFIC PRESS has a large and permanent subscription list, and enjoys a more universal circulation among stockholders and persons directly interested in mining than any other paper on this coast.

Metallurgy.

BOALT & STETEFELDT,
Metallurgists and Mining Engineers
AUSTIN, NEVADA.
Western Branch of ADELBURG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. H. TIEMANN.
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
210 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.
19v12-1y

Copper, Lead, Gold, Silver, Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,

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Special attention paid to Gold Bearing Sulphurets. 19v10-3m

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Haskell, for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to JOHN N. RIDGEMAN, At Coffey & Ridgeman's, San Francisco. 21v12

MARTIN & CO.,

Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE

PURCHASE OF COPPER ORES.

Assaying eight per cent. and upwards of Copper to the ton. We will make advances upon Ores of Copper. San Francisco, Post Office Box 1256. 22

PACIFIC CHEMICAL WORKS

ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of

Manufacturing Chemicals,

Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FALKENAU & HANES,

Laboratory, corner Folsom and Center streets,

Mission Dolores. Office, 620 Washington street, San Francisco. 21v12-1m

EUROPEAN

METALLURGICAL WORKS,

—AND—

Practical Mining School,

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SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphurets, pyrites, and the (so-called) "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way, also, refining by cupellation, done at moderate rates.

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The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

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10v10

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By EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co.'s tariff) on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the Mining and Scientific Press, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

City College Laboratories,

Southeast Cor. Stockton and Geary sts.

Practical and Analytical Chemistry and Metallurgy.

THOMAS PRICE,
Professor of Chemistry,
(Formerly of the Normal College, Swansea.)

WILL GIVE PRACTICAL INSTRUCTIONS IN QUALITATIVE AND QUANTITATIVE ANALYSIS AND ASSAYING. The course qualifies students for the application of chemistry to METALLURGY, MANUFACTURING ARTS, and MINING PURPOSES.

PHARMACEUTICAL and TECHNICAL CHEMISTRY, such as is required by Medical and Pharmaceutical Students, will be taught to such students as may require it.

Course of General Chemistry.

Evening Lectures will be delivered every Tuesday, at half-past seven o'clock, P. M., in the Philosophical Hall of the College, without extra charge to the students in the Institution.

On and after the 14th of February, the Laboratories will be open every day, except Sundays, from 8 A. M. to 5 P. M. For further particulars, address

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3v13 President Business College, San Francisco.

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—AND—

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Agencies at every City and Town on the Pacific Coast. Collections guaranteed with or without suit in all the cities and counties of the Pacific and Atlantic Coasts.

Legal advice will be given free of charge until after 1st January, 1867. Postage on letters asking advice must be paid both ways.

8v13-3m

Subscribers for it.—The large, illustrated sixty-four column weekly newspaper—the San Francisco Mining and Scientific Press—should be taken by every miner, prospector, and intelligent citizen throughout Colorado, as it gives a mine of most useful information to be gained no other way, on mining matters generally.—[Rocky Mountain News.]

Trades and Manufactures.

WM. BARTLING. **HENRY KIMBALL.**
BARTLING & KIMBALL,
BOOK BINDERS,
Paper Rulers and Blank Book Manufacturers,
505 Clay street, (southwest cor. Sansome),
15v12-3m SAN FRANCISCO.

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(SUCCESSOR TO O. OORI)
MARBLE WORKS,
No. 403 Pine st. bet. Montgomery and Kearny, San Francisco
Mantels, Monuments, Tombs, Plumber's Slabs
Etc., On hand and Manufactured to order.
Goods shipped to all parts of the State. Orders re-
spectfully solicited. 5v8-3m

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1v

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H. & L. AXLE GREASE,
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STENCIL PLATE CUTTER,
—AND—
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Pots for sale. 9v13-3m

FIRE, HYDRAULIC & SUCTION HOSE,
And Leather Belting.
M. M. COOK & SON,
801 Battery Street, San Francisco.

Are now manufacturing as above, Fire, Hydraulic and Suction Hose, and Leather Belting, of any dimension and in any quantity which may be desired. Fire Hose and Belting constantly on hand or manufactured to order. Also Saddles and Horse Collars.

The subscribers would respectfully ask purchasers to call and examine their stock—also testimonials of the efficiency of their work from such as have used their hose both for fire and mining purposes. A diploma was awarded to its last year, by the Mechanics' Institute, of this city, and a silver medal this year.

12v11-17

Empire Sewing Machine Company.

Principal Office, 616 Broadway, New York.

GREAT IMPROVEMENT IN SEWING MACHINES.
The Empire Sewing Machine is the best in the world. It is thus rendered noiseless in action. Its motion being all positive, it is not liable to get out of order. It is the best Family Machine. Notice is called to our new and improved Manufacturing Machine, for Tailors and Boot and Shoe Fitters. Agents wanted, to whom a liberal discount will be given. No consignments made.

EMPIRE SEWING MACHINE COMPANY.

7v13-5w

New Mining Advertisements.

Capitol Gold, Silver and Copper Mining Company,
Uvas District, Santa Clara County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of August, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
H. Bish.....	94	50	\$7 50
J. R. Leavenworth.....	72	10	1 50
J. R. Leavenworth.....	75	10	1 50
J. R. Leavenworth.....	78	10	1 50
S. Peak.....	39 to 51 inc	200	30 00
S. Peak.....	not issued	100	15 00
E. Redmond.....	90	200	30 00
E. Redmond.....	not issued	100	15 00
E. H. Swarthout.....	not issued	175	26 25
E. H. Swarthout.....	not issued	87 1/2	13 12 1/2
H. Barling.....	110	10	1 50
H. Barling.....	111	10	1 50
H. Barling.....	112	17 1/2	2 62
J. Bromie.....	113	15	2 25

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of August, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 719 Clay street, San Francisco, on the eighth day of October, 1866, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. R. BECKFORD, Secretary.

Office, No. 719 Clay street, San Francisco. 8v22

Great Central Mining Company, Yuma County, Arizona Territory.

Notice is hereby given, that the regular Annual Meeting of the above Company, will be held on MONDAY, October 8th, 1866, at 4 o'clock P. M., at the office of said Company, No. 302 Montgomery street, for the purpose of electing a Board of Trustees to serve for the ensuing year; also, for transacting any and all other business that may properly come before said meeting.

O. D. SQUIRE, Secretary.

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.

Assessment No. 14.
Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of September, 1866, an assessment of two and one-half dollars (\$2.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, only.

Any stock upon which said assessment shall remain unpaid on the eighth day of October, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of November, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. G. WOOD, Secretary.

Office, 333 Montgomery street, San Francisco.

Notice.—At the above meeting of said George Washington Company, assessment No. 13, levied August 14, 1866, for one dollar per share was rescinded, and all stockholders having paid the same will be credited with the several amounts so paid by them respectively on assessment No. 14 of \$2.50 per share, levied as above. By order of the Board of Trustees.

A. G. WOOD, Secretary.

Hansom Copper Mining Company.—Location: Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of September, 1866, an assessment of fifteen (15) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, S. S. SWEET, No. 609 Market street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the eighth day of October, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of November, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. S. SWEET, Secretary.

Office, No. 609 Market street, San Francisco. 8v22

Humboldt Gold and Silver Mining Company, Sierra District, Humboldt county, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of September, 1866, an assessment of two dollars (\$2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, O. HARRA TAAFFE, No. 430 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of November, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

G. O'HARRA TAAFFE, Secretary.

Office, No. 430 California street, San Francisco. 8v22

Keystone Mining Company, Copper Canon District, Copperopolis, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of September, 1866, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States, to the Secretary, at his office, No. 440 California streets, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the tenth day of November, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. P. SUTTON, Secretary.

Office, 440 California street, San Francisco. 8v22

Segregated Belcher Mining Company, Gold Hill District, Storey County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the fourteenth day of August, 1866, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Apple Robert.....	180	5	\$25 00
Blasdel H G, Nos 43, 44, 45, 46, 47	48, 49, 205 ea	140	700 00
Blasdel H G, Nos 51, 52, 53, 54, 55	56, 57, 10 sh ea	80	400 00
Blasdel H G.....	Nos 59 to 74 inc 5 sh ea	80	400 00
Bradford C H.....	Nos 134 to 148 inc 4 sh ea	60	300 00
Bradford C H.....	Nos 149 to 186 inc 2 sh ea	40	200 00
Childs E F, Trustee.....	Nos 169, 170 10 sh ea	20	100 00
Childs E F, Trustee.....	185	10	50 00
Grim A K.....	41	34	170 00
Grim A K.....	42	7 1/2	3 33
Grim A K.....	47	10	50 00
Grim A K.....	78	3 1/2	15 67
Grim A K.....	80	33	165 00
Grim A K.....	83	83	415 00
Hammon A K F.....	15	240	1200 00
Holt T H.....	164	5	25 00
King Wm F, Trustee.....	Nos. 114 to 133 inc 5 sh ea	100	500 00
Montefiore A P.....	13	65	325 00
Smith F G.....	39	1,000	5,000 00
Smith F G.....	91	3,703	18,515 00
Smith F G.....	Nos 172 to 185 5 sh ea	45	225 00
Treadwell J.....	153	25	125 00
Wheeler C T.....	Nos 20 to 24 40 sh ea	200	1,000 00
Wheeler C T.....	Nos 25 to 34 20 sh ea	200	1,000 00
Wright F F, Trustee.....	Nos 94 to 104 10 sh ea	100	500 00
Wright F F, Trustee.....	111, 112, 113 10 sh ea	30	150 00

And in accordance with law, and an order of the Board of Trustees, made on the fourteenth day of August, 1866, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at salesroom of J. Middleton & Son, No. 494 Montgomery street, San Francisco, on the eighth day of October, 1866, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOISE, Secretary.

Office, 318 California street, up stairs, San Francisco. Cal. 8v22

Blanks, Blank Mining Books,

Constitution and By-Laws

—FOR—

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Mining and Scientific Press.

Orders from the interior faithfully attended to.

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be sent in as early as possible.

Mining Notices—Continued.

Arbitros Mining Company, Batopilas District, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of August, 1866, an assessment (No. 11) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 311 Montgomery street, up stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of October, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty-sixth day of October, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. MARTINON, Secretary.

Office, 311 Montgomery street, San Francisco, Cal.

N. B.—Until further notice, all advertisements of this Company will appear in the Mining and Scientific Press.

Assurance Mining Company.—Location: Occidental Lode, San Benito Mining District, County of Monterey, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of August, 1866, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 4, 302 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twelfth (12th) day of October, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. H. RUSSELL, Secretary.

Office, Room No. 4, 302 Montgomery street, San Francisco. 8v1

Antioch Premium Petroleum Company.—Location: Works: Antioch, Contra Costa County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of August, 1866, an assessment of two (\$2) dollars per share was levied upon the capital stock of said Company, payable at once, in United States gold and silver coin, to the Secretary, corner Pacific and Battery streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of September, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifteenth day of October, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

BENJ. B. OORE, Secretary.

Office, corner Pacific and Battery streets, San Francisco, Cal. aug 25

Big Pine Lead Gold and Silver Mining Company, Pine Cove District, Tulare County, California.

Notice is hereby given that 177 shares of Stock of the above Company, and belonging to the company, will be sold at public auction, on FRIDAY, October 5th, 1866, 12 o'clock noon, at the auction room of John Middleton & Son. By order of the Board of Trustees.

M. G. ELMORE, Secretary.

Office, No. 315 Montgomery street, San Francisco. 8v15

Corallera Gold and Silver Mining Company, Chihuahua, Morilles Mining District, Chihuahua, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eighth day of July, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J. H. Handley.....	8	25	\$25 00
C. J. Hart.....	75	10	50 00
C. J. Hart.....	234	10	50 00
Robert Haskell.....	15	26	26 00
A. Clark.....	105	21	21 00
W. Flaglin.....	18	26	26 00
W. Flaglin.....	19	26	26 00
W. R. Cooper.....	254	26	26 00
W. R. Cooper.....	255	26	26 00
J. L. Knight.....	75	2	2 00
C. E. Williams.....	8	3	3 00
J. H. Wood.....	83	3	3 00
J. H. Wood.....	182	5	5 00
J. B. Andrews.....	144	5	5 00
C. B. Andrews.....	102	6	6 00
T. McDonald.....	117	20	20 00
J. M. Martin.....	140	25	25 00
M. J. Fitzgerald.....	214	20	20 00
A. R. Flanagan.....	105	3	3 00
A. R. Flanagan.....	245	5	5 00

Chiptona Mining Company—District of Ures,

Notre is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of August, 1886, an assessment of two dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, up-stairs, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of September, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifteenth day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary.

Office, 318 California street, San Francisco, Cal. set

Consolidated Silver Hill Mining Company—

Location of Works: Esmeralda District, State of Nevada.

Notre is hereby given that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of August, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at the office of the Company, Room No. 15 Government House, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-second day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN S. MACKENZIE, Secretary.

Office, Room 15 Government House, San Francisco, Cal.

Diamond Copper Mining Company, Rockland

District, Del Norte County, California.

Notre—There are delinquent, upon the following described stock, on account of assessment levied on the eighth day of August, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allen, J. D., Jr., Del Norte Co., Not issued	10	75.56	174.83
Crosby D. A., Del Norte Co., Not issued	10	13.5	5.00
Goldie, J. A., Trustee, Not issued	10	173.5	173.50
Goldie, J. A., Trustee, Not issued	10	13.5	5.00
Goldie, J. A., Trustee, Not issued	10	13.5	5.00
Goldie, J. A., Trustee, Not issued	10	13.5	5.00
Goldie, J. A., Trustee, Not issued	10	13.5	5.00
Goldie, J. A., Trustee, Not issued	10	13.5	5.00
Goldie, J. A., Trustee, Not issued	10	13.5	5.00
Goldie, J. A., Trustee, Not issued	10	13.5	5.00

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of September, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on the second day of October, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. COOLIDGE, Secretary.

Office, 33 Montgomery Block, San Francisco, Cal. set

Diana Gold and Silver Mining Company, Lander

County, Nevada.

Notre is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of August, 1886, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States Currency, to the Secretary, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-second day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

N. C. PASSETT, Secretary.

Office, 402 Front street, San Francisco, Cal. set

Del Norte Comstock Company—Location:

Del Norte County, California.

Notre—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of July, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adams, R. E., Del Norte Co., Not issued	10	75.56	174.83
Adams, R. E., Del Norte Co., Not issued	10	13.5	5.00
Adams, R. E., Del Norte Co., Not issued	10	13.5	5.00
Adams, R. E., Del Norte Co., Not issued	10	13.5	5.00
Adams, R. E., Del Norte Co., Not issued	10	13.5	5.00
Adams, R. E., Del Norte Co., Not issued	10	13.5	5.00
Adams, R. E., Del Norte Co., Not issued	10	13.5	5.00
Adams, R. E., Del Norte Co., Not issued	10	13.5	5.00
Adams, R. E., Del Norte Co., Not issued	10	13.5	5.00
Adams, R. E., Del Norte Co., Not issued	10	13.5	5.00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, rooms of Maurice Dore & Co., 327 Montgomery street, San Francisco, on the twenty-fourth day of September, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary.

Office, No. 331 Montgomery Street, San Francisco, Cal. set

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. Those discrepancies, although arising from the inexperience of agents, are none the less dangerous to applicants for patents. Whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the regulations of the Department, and properly filed all necessary papers as Claim Agents.

Illegal Supplemental Advertising.—It would be well for Mining Companies, whose advertisements are repeatedly appearing in the Supplements of daily papers, to inquire into the legality of that class of advertising.

Gold Hill Tunneling Gold and Silver Mining

Company—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notre—There are delinquent, upon the following described stock, on account of assessment (No. 8) levied on the thirty-first day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Chappell, F., Del Norte Co., Not issued	10	75.56	174.83
Chappell, F., Del Norte Co., Not issued	10	13.5	5.00
Chappell, F., Del Norte Co., Not issued	10	13.5	5.00
Chappell, F., Del Norte Co., Not issued	10	13.5	5.00
Chappell, F., Del Norte Co., Not issued	10	13.5	5.00
Chappell, F., Del Norte Co., Not issued	10	13.5	5.00
Chappell, F., Del Norte Co., Not issued	10	13.5	5.00
Chappell, F., Del Norte Co., Not issued	10	13.5	5.00
Chappell, F., Del Norte Co., Not issued	10	13.5	5.00
Chappell, F., Del Norte Co., Not issued	10	13.5	5.00

And in accordance with law, and an order of the Board of Trustees, made on the thirty-first day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Tuesday the twenty-fifth day of September, 1886, at the hour of 1 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. WEGENER, Secretary.

Office 415 Montgomery street, San Francisco, Cal. set

Kentucky Copper Mining Company, Mmc Felix

District, Calaveras County, California.

Notre—There are delinquent, upon the following described stock, on account of assessment levied on the second day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buchanan, Ch., Del Norte Co., Not issued	10	75.56	174.83
Buchanan, Ch., Del Norte Co., Not issued	10	13.5	5.00
Buchanan, Ch., Del Norte Co., Not issued	10	13.5	5.00
Buchanan, Ch., Del Norte Co., Not issued	10	13.5	5.00
Buchanan, Ch., Del Norte Co., Not issued	10	13.5	5.00
Buchanan, Ch., Del Norte Co., Not issued	10	13.5	5.00
Buchanan, Ch., Del Norte Co., Not issued	10	13.5	5.00
Buchanan, Ch., Del Norte Co., Not issued	10	13.5	5.00
Buchanan, Ch., Del Norte Co., Not issued	10	13.5	5.00
Buchanan, Ch., Del Norte Co., Not issued	10	13.5	5.00

And in accordance with law, and an order of the Board of Trustees, made on the second day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesrooms of Cobb & Sinton, 407 California street, on the twenty-sixth day of September, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. BAUER, Secretary.

Office, 644 Washington street, San Francisco, Cal. set

Kentucky Copper Mining Company, Calaveras

County, California.

Notre is hereby given, that the certificates, No. 44 of fifteen shares, and No. 109 of ten shares, Kentucky Copper Mining Company, standing in my name, have been lost. The transfer being stopped, the public are cautioned against purchasing the same.

J. R. DENNIS.

San Francisco, August 20, 1886. au25-3m

Lady Bryan Gold and Silver Mining Company

Location of Works: Storey County, Nevada.

Notre—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adst L. B., Del Norte Co., Not issued	10	75.56	174.83
Adst L. B., Del Norte Co., Not issued	10	13.5	5.00
Adst L. B., Del Norte Co., Not issued	10	13.5	5.00
Adst L. B., Del Norte Co., Not issued	10	13.5	5.00
Adst L. B., Del Norte Co., Not issued	10	13.5	5.00
Adst L. B., Del Norte Co., Not issued	10	13.5	5.00
Adst L. B., Del Norte Co., Not issued	10	13.5	5.00
Adst L. B., Del Norte Co., Not issued	10	13.5	5.00
Adst L. B., Del Norte Co., Not issued	10	13.5	5.00
Adst L. B., Del Norte Co., Not issued	10	13.5	5.00

Names.	No. Certificate.	No. Shares.	Amount.
Ing A. D., Del Norte Co., Not issued	10	75.56	174.83
Ing A. D., Del Norte Co., Not issued	10	13.5	5.00
Ing A. D., Del Norte Co., Not issued	10	13.5	5.00
Ing A. D., Del Norte Co., Not issued	10	13.5	5.00
Ing A. D., Del Norte Co., Not issued	10	13.5	5.00
Ing A. D., Del Norte Co., Not issued	10	13.5	5.00
Ing A. D., Del Norte Co., Not issued	10	13.5	5.00
Ing A. D., Del Norte Co., Not issued	10	13.5	5.00
Ing A. D., Del Norte Co., Not issued	10	13.5	5.00
Ing A. D., Del Norte Co., Not issued	10	13.5	5.00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of July, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, on the eleventh day of September, 1886, at the hour of one o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. O. HOWARD, Secretary.

Office, 623 Montgomery street, San Francisco, Cal. au25

Miner Rica de las Flores Mining and Mill Company

Camp Flores, near West Point, Calaveras County, California.

Notre is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of August, 1886, an assessment (No. 13) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, S. Dickinson, at the office of the Company, No. 423 Washington street, Room No. 15, up stairs, San Francisco, Cal., between the hours of 11 A. M. and 1 P. M.

Any stock upon which said assessment shall remain unpaid on the second day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-ninth day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. DICKINSON, Secretary.

Office, 423 Washington street, San Francisco, Cal. au25-6t

Nuestra Señora de Guadalupe Silver Mining

Company, Tayoltita District, Durango, Mexico.

Notre is hereby given, that at a meeting of the Board of Trustees of said Company held on the twenty-fifth day of July, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, at the office, No. 210 Post street, in the city of San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirty-first day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.

Office, 210 Post street, San Francisco, Cal.

N. B.—The above is assessment No. 24, levied on June twenty-fifth, 1886, and now re-advertised, in accordance with an order of the Board of Trustees, at a meeting held on the thirtieth day of August, 1886. The omission to complete the advertising in accordance with the first order, occurring by delay in order to receive news from interested parties in New York.

E. J. PFEIFFER, Secretary.

San Francisco, August 30th, 1886. set

Lady Bell Copper Mining Company, Low Divide

Mining District, Del Norte County, California.

Notre—There are delinquent, upon the following described stock, on account of assessment levied on the third day of August, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Lake Barrow, Del Norte Co., Not issued	10	75.56	174.83
Lake Barrow, Del Norte Co., Not issued	10	13.5	5.00
Lake Barrow, Del Norte Co., Not issued	10	13.5	5.00
Lake Barrow, Del Norte Co., Not issued	10	13.5	5.00
Lake Barrow, Del Norte Co., Not issued	10	13.5	5.00
Lake Barrow, Del Norte Co., Not issued	10	13.5	5.00
Lake Barrow, Del Norte Co., Not issued	10	13.5	5.00
Lake Barrow, Del Norte Co., Not issued	10	13.5	5.00
Lake Barrow, Del Norte Co., Not issued	10	13.5	5.00
Lake Barrow, Del Norte Co., Not issued	10	13.5	5.00

And in accordance with law, and an order of the Board of Trustees, made on the third day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesrooms of Maurice Dore & Co., on Tuesday, the second day of October, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

G. HEYWOOD, Secretary.

Office, 311 Market street, San Francisco, Cal. set

Rattlesnake Gold and Silver Mining Company,

Spring Valley District, Yuba County, California.

Notre—There are delinquent, upon the following described stock, on account of assessment levied on the eighth day of August, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bradley M., Del Norte Co., Not issued	10	75.56	174.83
Bradley M., Del Norte Co., Not issued	10	13.5	5.00
Bradley M., Del Norte Co., Not issued	10	13.5	5.00
Bradley M., Del Norte Co., Not issued	10	13.5	5.00
Bradley M., Del Norte Co., Not issued	10	13.5	5.00
Bradley M., Del Norte Co., Not issued	10	13.5	5.00
Bradley M., Del Norte Co., Not issued	10	13.5	5.00
Bradley M., Del Norte Co., Not issued	10	13.5	5.00
Bradley M., Del Norte Co., Not issued	10	13.5	5.00
Bradley M., Del Norte Co., Not issued	10	13.5	5.00

And in accordance with law, and an order of the Board of Trustees, made on the eighth day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of John Middleton & Son, No. 404 Montgomery street, San Francisco, on the third day of October, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOISE, Secretary.

Office, 318 California street, up-stairs, San Francisco, Cal. set

Santa Cruz Petroleum Oil Works Company,

Location: Santa Cruz County, California.

Notre—The Fourth Annual Meeting of the stockholders of the above-named Company, will be held at their office, 415 Montgomery street, San Francisco, California, on TUESDAY, the twenty-fifth day of September, 1886, at eight o'clock, P. M., for the purpose of electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WEGENER, Secretary.

San Francisco, August 25, 1886. au25

Notre—The above Annual Meeting of the stockholders of the Santa Cruz Petroleum Oil Works Company, is hereby postponed until TUESDAY, the second day of October, 1886, at the same hour and place. By order of the Board of Trustees.

R. WEGENER, Secretary.

San Francisco, Sept. 11, 1886. set

San Marcial Silver Mining Company—Location

of Works: San Marcial, District of Hermosillo, State of Sonora, Mexico.

Notre is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of August, 1886, an assessment of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 331 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-first day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary.

Office, 331 Montgomery street, San Francisco, Cal. set

Simpon Mining and Milling Company, Mokelumne

and Excelsior District, Alpine County, California.

Notre—There are delinquent upon the following described stock, on account of assessment levied on the third day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T. B. Cunningham, Del Norte Co., Not issued	10	75.56	174.83
T. B. Cunningham, Del Norte Co., Not issued	10	13.5	5.00
T. B. Cunningham, Del Norte Co., Not issued	10	13.5	5.00
T. B. Cunningham, Del Norte Co., Not issued	10	13.5	5.00
T. B. Cunningham, Del Norte Co., Not issued	10	13.5	5.00
T. B. Cunningham, Del Norte Co., Not issued	10	13.5	5.00
T. B. Cunningham, Del Norte Co., Not issued	10	13.5	5.00
T. B. Cunningham, Del Norte Co., Not issued	10	13.5	5.00
T. B. Cunningham, Del Norte Co., Not issued	10	13.5	5.00
T. B. Cunningham, Del Norte Co., Not issued	10	13.5	5.00

And in accordance with law and an order of the Board of Trustees, made on the third day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, southwest corner of Front and Jackson streets, up stairs, San Francisco, California, on the twenty-fourth day of September, 1886, at the hour of 12 o'clock, noon, of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. BIGELOW, Secretary.

Office, southwest corner of Front and Jackson streets, up stairs, San Francisco, State of California. set

Union Mattole Oil Company, Humboldt County,

California.

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective millers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

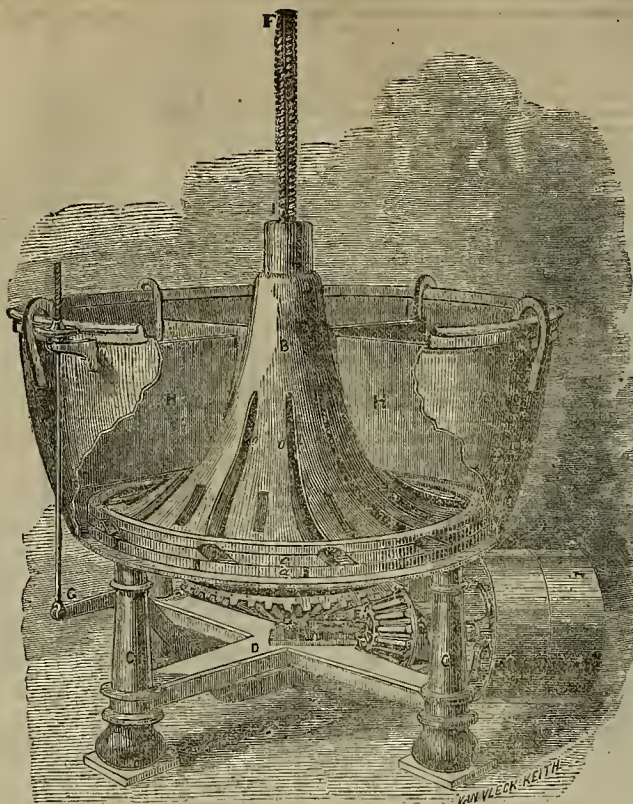
Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,
WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

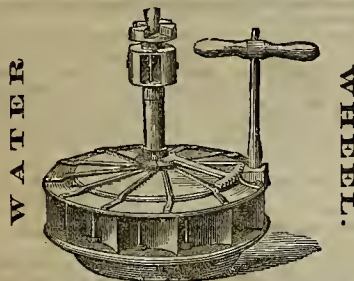
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
171 San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given universal satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 500 inches of water, and from 4 feet to 50 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to
KNAPP & GRANT,
San Francisco.

Also—
Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by
KNAPP & GRANT,
San Francisco.

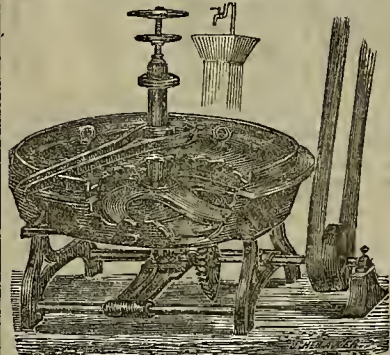
PAGE'S PATENT FOR RAISING SUNKEN VESSELS!

SHIPPING AND INSURANCE COMPANIES, AND other parties upon this coast or in the Atlantic States, having occasion to avail themselves of this invention, which has been tried and proved a success, will please address, for the present, JOSEPH DEVINNEY, San Francisco or at the office of the Mining and Scientific Press, 8713

AUSTIN Z. PAGE, Patentee.

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and its execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for BOOK AND PAMPHLET PRINTING entrusted to the Mining and Scientific Press Job Office.

BAUX & GUIDO'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1864, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by BAUX & GUIDO'S Pan, are the following: The trilling cost for attendance; Its small cost; Its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping, as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the trifling power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jeffersonian Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Grady's Gravel Cement Works, Nevada county; Wainman's Chlorination Works, Nevada, Cal.; Gold Hill Quartz Mill, Washoe.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hugh & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address
J. B. BAUX,
Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 493-6dF

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE

ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent,

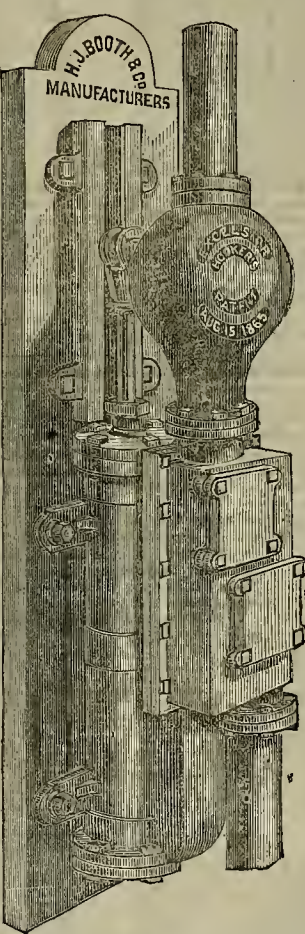
At JOH. M. SEAMAN & CO'S, 631 WASHINGTON STREET, San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the Mining and Scientific Press. 2v13p16-1f

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground. 19v12

EXCELSIOR PUMP!



HOOKE'S PATENT!

CHALLENGES COMPETITION!

THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufactories, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any tower or any purpose. For sale by agents throughout the State.

J. W. BRITTAN & CO.,

General Agents,

120 Front Street, San Francisco. 2v13 3m

Send for Price List.

STODDARD'S CELEBRATED WATER FILTERS!

PURIFY RAIN, RIVER, OR SPRING VALLEY WATER. Perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by
S. B. STODDARD,
Corner of Battery and Pacific streets. 25v12-3m

June 23, 1866.

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Fractious men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention. 15v12-3m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

19v12 416 Market street, San Francisco.

Kerosene and Gas Stoves.

TEA AND COFFEE BOILERS, GLUE POTS, OIL CANS, etc., etc.

—All the Cooking for a family may be done with —
—Kerosene Oil or Gas, with —
—less trouble, and at less —
—expense, than by any other —
—or fuel.

Each Article manufactured by this Company is guaranteed to perform all that is claimed for it.

LIBERAL DISCOUNT TO THE TRADE.

KEROSENE LAMP HEATER COMPANY,
206 Pearl Street, New York. 6v13-2m

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by
THOMAS H. SELBY & CO.,
22v12 3m Nos. 116 and 118 California street

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 300 feet fall. One to three-ply Hose made. All orders punctually attended to.

S. HOWARD,

aull-1v 326 Davis street, San Francisco.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDARD'S IRON WORKS,
114 Beale Street, San Francisco.
23v12 3m

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery
OF ALL KINDS.

Special attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. F. Low; Coffey & Risdon, San Francisco; C. T. Meader, Stockton; Geo. K. Glynas, Chief Engineer of Cal. S. Nav. Co., San Francisco; J. W. Stow, Russell & Erwin Manufacturing Company; Office, No. 120 Front street, San Francisco. 4v12

Economy in Advertising.—The Mining and Scientific Press is the best and most economical mining advertising medium in this city. Our terms are less than any other rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

(Written for the Mining and Scientific Press.)

Humboldt County Oil Prospecting.

EDITORS PRESS:—Since my last, the Erwin Davis and Jeffrey companies have suspended operations—the former at a depth of 1,166 feet, the latter at 830 feet. The Davis company will resume work as soon as necessary repairs are made. No company is now working in this valley.

Parties interested in the development of the oil interests in this vicinity, are now about to inaugurate a plan by which the question as to the existence of petroleum in paying quantities in this county will be settled.

They purpose raising, by subscription, a sum sufficient to thoroughly prospect a certain locality, employing intelligent, practical men, and the services of a steam-engine, in lieu of the spring pole.

Your correspondent is of the opinion that they will select the North Fork of the Mattole as the most promising location. Joell's Flat is also mentioned in this connection.

In all probability the engine on the Jeffrey company's works will be employed by them, as negotiations are now pending with this in view. Mr. Wentworth, of the Jeffrey company, is now in your city on business connected with the enterprise.

The Yosemite company, in the upper valley, are about to resume operations, Dr. Pugh having been relieved by Dr. Bell as superintendent.

The Fanner Farm Well company, in the upper valley, have resumed work, but with what result we are not advised. More anon, Petrolia, Cal., Sept. 2d, 1866. DEX.

ADDITIONAL.—Under date of Sept. 10th, our correspondent states that the Davis Well has been put in excellent repair, and will go down to the depth of 2,000 feet, if possible, if a vein is not struck before. The North Fork company's works were to be sold on the 10th, on a judgment for \$260. The employees, including "Dex," are out and injured in the sum of \$800, due for wages. Our correspondent speaks of rumors about the Jeffreys company, which we do not deem it best to publish until they are confirmed.

The British ironmasters have discovered the value of anthracite coal. They had not hitherto been able to use it. But now Mr. L. H. Blackwell, of South Wales, reports that they had even surpassed our countrymen, being able to make a ton of Nos. 2 and 3 pigs with something less than a ton of anthracite—the previous method requiring three tons of coal—while we have been in the habit of using two tons of anthracite. This is the latest and most signal refutation of the British ex-Chancellor's recent statement before Parliament, that the coal of the United States possesses so much anthracite that it is not fit for smelting purposes.

Auction House.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 413 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland. ctf

STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the Mining and Scientific Press.

BROWN & BEADLE,

Offer their services to
INVENTORS AND THEIR ASSIGNEES,

PATENT SOLICITORS.

They will make Preliminary Examinations in the Patent Office, with a view to ascertain the Patentability of any invention that may be submitted to them for that purpose; will prepare the necessary papers for those who wish to make Applications for

Patents for their Inventions,

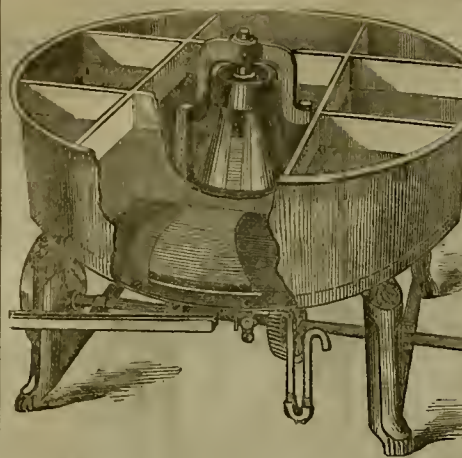
—OR FOR—

EXTENSIONS OR REISSUES OF PATENTS
Already granted, will act as Attorneys in presenting Applications at the Patent Office, and in managing them in final issue; will draw up Assignments; will examine into the condition of Rejected Applications when desired to do so, and undertake the prosecution of such as may be considered patentable, and do whatever else is usually done by Patent Solicitors.

Address, P. O. Box 257, Washington, D.C. 7v12-3m

Knox's Improved Patent Amalgamator and Separator,

With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of

16v13-12q

At the Golden State Iron Works, No. 19 First street, San Francisco.

THIS CUT REPRESENTS AN AMALGAMATOR AND SEPARATOR THAT HAS STOOD THE TEST OF SEVERAL YEARS' PRACTICAL WORKING IN THE GOLD MINES OF CALIFORNIA, AND FOR NEARLY THE SAME TIME IN THE SILVER MINES OF NEVADA, HAVING BEEN INTRODUCED INTO THE FIRST STEAM MILLS BUILT IN THE THEN TERRITORY, SINCE WHICH TIME THEY HAVE BEEN SUCCESSFULLY WORKING AGAINST ALL COMPETITION.

The great advantages these Amalgamators have over any others, are—

1st. Much Less Cost.

2d. They do not "flour" the mercury, and collect more than may have been "sickened" in the battery or grinders.

3d. The "sloshing" motion given to the pulp (by the revolution of the miller under the stationary frame) against the amalgamated copper plates that are fastened to the frame, and by this means catching the fine gold and mercury that will not settle.

4th. The gate in the cone, through which the pulp is discharged, from the top, and where there is the least motion, thus precluding the possibility of any granulated mercury or fine gold escaping.

There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

ISRAEL W. KNOX, or

W. A. PALMER, Inventors,

At the Golden State Iron Works, No. 19 First street, San Francisco.

CAUTION!

NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 27th, 1865, to Professor Henry Wurtz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY,

OF NEW YORK,

Assignees of letters patent granted to Prof. Henry Wurtz, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.

The terms and conditions upon which rights to use the process are obtainable, can be had on application to WM. SLOSSON, Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 5v13

NEW YORK PRICES.

C. E. COLLINS,
No. 603 Montgomery street, San Francisco.
EXCLUSIVE AGENT
—FOR THE—
AMERICAN
WATCH FACTORY.

A large assortment of these
Superior Watches,
In Gold and Silver Cases,
Constantly on hand, and sold at Factory prices. Also,
ENGLISH AND SWISS WATCHES,
Imported directly from the Manufacturers.

The American Company are now making
VERY FINE WATCHES FOR LADIES.
Also—A large assortment of Gold Chains and Jewelry. 2v10-6m

WATCH REPAIRING AT NEW YORK PRICES.
WATCH REPAIRING AT NEW YORK PRICES.

NEW YORK PRICES.
WATCH REPAIRING AT NEW YORK PRICES.

**STANDARD SOAP COMPANY'S
WASHING POWDER.**

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for using in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1-lb each, and in wooden boxes of 10-lb bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15v12q

**WE ARE NOW OFFERING
OUR IMMENSE STOCK**

—OF—
Fine Custom Made Clothing

—AND—
Gents' Furnishing Goods

AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of
ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

A Large Assortment of

Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,

Cor. of Washington and Sansome streets.

8v10

ANNUAL REPORT

—OF THE—

Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE OF THE STATE OF CALIFORNIA, entitled "An Act concerning Corporations," passed April 22, 1860, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD. \$12,973,949

II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS. \$1,051,420.37

III.—The Company has NO DEBTS.

IV.—The amount of insurance effected during the year, and which remained in force December 31, 1865:

Fire. \$12,973,949

Marine. 454,403

This Company commenced underwriting Marine Risks, August 1, 1865.

V.—This Company insures against the following risks, viz: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.

Also, on CARGOES, TREASURES, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL MARINE AND INLAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

J. HUNT, President.

A. J. RALSTON, Secretary.

San Francisco, January 19, 1866.

Louis McLane, Edward Martin, A. Hayward,

W. C. Ralston, Chas. Mayne, T. L. Barker,

A. L. Tubbs, Moses Ellis, Alex. Well,

William Alvord, E. L. Goldstein, C. Meyer,

Frederick Billings, Wm. T. Coleman, J. D. Fry,

Jonathan Hunt, John O. Earl, M. Rosenbaum,

A. B. Forbes, Lloyd Tevis, H. H. Bigelow,

Amos G. Seles, Geo. W. Weaver, T. Leimann Meyer,

Abm. Seligman, Adam Grant, S. S. Smith,

L. B. Benedict, Alpheus Bull, Edgar Mills,

Wm. Sherman, S. M. Wilson, G. W. Mow,

L. Sachs, William Schulte, C. T. Wheeler,

Jas. DeFremercy, Morton Cheeseman, J. H. Jewett,

John G. Bray, H. Hansmann, Stockton,

John B. Newton, D. W. R. Rice, T. R. Anderson,

David Stern, Oliver Eldridge, Portland, Oregon,

D. O. Mills, E. W. Leonard, W. S. Ladd,

J. G. Kellogg, S. Steinhart, Jacob Kamm,

H. O. Howard, L. L. Weaver, Virginia, Nevada,

James Heller, Wm. Hooper, Wm. Sharon,

G. T. Lawton, Alfred Borel,

State of California, City and County of San Francisco, ss.

In this nineteenth day of January, A. D. one thousand

eight hundred and sixty-six, personally appeared before

me, J. L. HOMANS, a Notary Public, in and for the said

City and County, and therein residing, duly commissioned

and sworn, A. J. Ralston, who, being duly sworn, did depose

and say that he is the Secretary of the Pacific Insurance

Company, and that the statements contained in the fore-

going Report of the Pacific Insurance Company are true,

full and correct. A. J. RALSTON.

Sworn and subscribed to before me, this 19th day of Janu-

ary, A. D. 1866. H. S. HOMANS, Notary Public.

5v13-1f

WM. H. KEITH & CO.,**Chemists and Apothecaries,**

PROPRIETORS AND MANUFACTURERS OF

WM. H. KEITH & CO.'S WINE OF PEPSINE, OR RENNET Wine, a new and efficacious remedy for Dyspepsia, Gastralgia, etc. WM. H. KEITH & CO.'S GLUCOLIN, a new and valuable compound of Cod Liver Oil, put up in glass jars. WM. H. KEITH & CO.'S LEMON APERIENT, or Purgative Lemonade, an agreeable, cooling and active purgative, of mild laxative, as required. WM. H. KEITH & CO.'S SAPONACEOUS TOOTH POWDER. DEVINE'S PITCH LOZENGES, for the cure of coughs and colds. Wm. H. Keith & Co's Fluorine Tooth Wash. Wm. H. Keith & Co's Granular Effervescent Citrate of Magnesia. Wm. H. Keith & Co's Rosemary and Castor Oil Hair Invigorator.

WM. H. KEITH & Co. being in frequent communication with Eastern and European markets, are continually receiving their stock of Pure Drugs, Rare Chemicals, Fancy Goods, and Toilet Articles, Pure Oils, etc. They also give special attention to replenishing ship medicine chests. Also, just received, a large and well-selected invoice of HERNSTEIN'S CELEBRATED INSTRUMENTS, consisting in part of Amputating and Obstetric sets, Pocket Cases, etc. Physicians and others at a distance ordering goods from us, can depend upon having their orders filled with the same regard to quality and price, as though obtained in person, and we give particular attention to packing and forwarding the same.

WM. H. KEITH CO.,

Apothecaries' Hall, No. 521 Montgomery street,

15v12ly Between Clay and Commercial, San Francisco.

California Steam Navigation**COMPANY.**

Steamer CAPITAL.....CAPT. E. A. POOLE

"CHRYSOPOLIS.....CAPT. A. FOSTER

"YOSEMITE.....CAPT. W. BRONLEY

"CORNELIA.....CAPT. E. CONCKLIN

One of the above steamers leave BROADWAY WHARF

at a clock P. M. EVERY DAY (Sundays excepted), for

Sacramento and Stockton, connecting via light-draft

steamers for Marysville, Colusa, Chico, and Red Bluff.

Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA,

ACTIVE and ST. LOUIS, leave for Honolulu, for Hon-

olulu, Portland, Oregon, New Westminster, British Colum-

bia, Victoria, V. I., Santa Barbara, San Pedro, and San

Diego.

Office of the Company, northeast corner of Front and

Jackson streets.

13v12

B. M. HARTSHORNE,

President.

Portable Steam Engines!

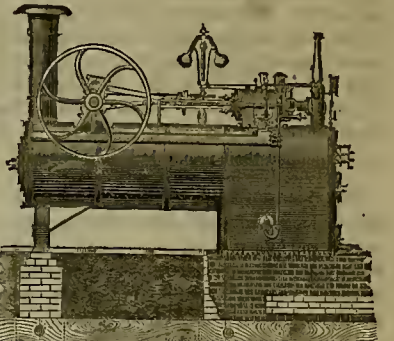
"Hoadley's" and "Hittinger's" Make.



HOADLEY'S.

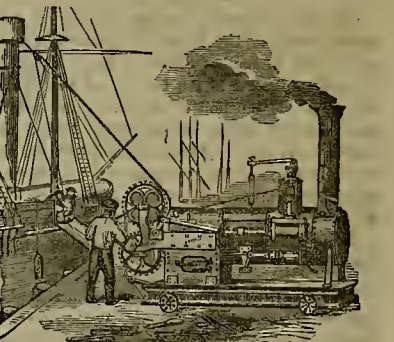
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

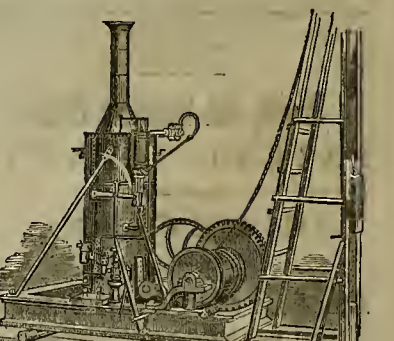
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power!



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DUR-

ability, and Economy, with the Minimum of weight

and price.

These Engines are favorably known, a large number

being in use on this coast for hoisting, pumping, threshing,

milling and mining purposes.

Steam can be got up on these Engines in fifteen minutes

after reaching the place of operation, and the time, expense

of setting boilers, machinery, and "construction accounts"

saved, (which is often the difference between the successful

and unsuccessful prosecution of mining enterprises), in

fact, the portable principle is the pioneer's friend, and en-

ables him to draw engines on their own wheels, to his cabin

door, and plant on the outermost confines of civilization

the saw and grist mill, and it has done and will do more

to help subdue the continent than any other of the modern

motors which are crowding society and normalizing the

world.

All sizes on hand from 3 to 30 horse power, with an

without carriages.

Also, Portable Saw and Grist Mills.

For sale by

TREADWELL & CO.,

13v12 Corner of Front Market and streets.

TUNNELING.—There seems to be a great rage just at this time for tunneling rivers and other water channels. Chicago is advertising for a tunnel with three separate roadways under the Chicago river. A tunnel is also talked of under the Mississippi at St. Louis. The East River, between New York and Brooklyn, and the Straits of Dover, between England and France, have long been a standing problem for engineering skill in this direction, and it is predicted that but a few years will elapse before the locomotive will be thundering its way under the Hudson River to New Jersey. A large amount of scientific labor is now being earnestly brought to bear upon schemes, the conception of which, a few years ago, would have been thought the height of folly.

THE WALTZING OR PLANETARY PAN.—We are pleased to learn that the question of infringement growing out of the similarity of the two pans recently invented and patented by Thomas Hanshrow and J. S. Crall, has been amicably settled by the parties interested, and that these pans will soon be introduced into general use. The parties most immediately concerned have acted wisely in coming to an amicable understanding as they have, and no doubt each will be more benefited than though they had adopted the usual course of submitting their differences to the settlement of the courts, and expended their profits in feeing lawyers.

THE OAKLAND COTTON MILL, working thirty-two looms, with other machinery in proportion, is run by a 40-horse steam engine, employs twenty-five hands, mostly women of experience from the country, and is turning out some 1,500 yards per day. Although the mill has been in operation but a short time, and running at its full capacity, a ready sale is found for all the goods as fast as they can be manufactured.

We take pleasure in calling attention to the advertisement of Dr. Boynton's Medicine Chest, to be found in another column. It is a chest peculiarly fitted for use in the family and the camp, and bears the sanction of physicians in various parts, some of whom we know to be among the best in the country. As it is designed for the use of the family, nothing can be more honorable than subjecting it to the criticism of such physicians. We have secured one for our private use.

These chests can be obtained at the lowest rates by addressing this office.

OUR CABINET.—We shall notice next week a fine lot of specimens from Mr. A. H. Howk, of Weston, Nye county, Nevada; also, a petrification, from Mr. Geo. W. Bunnell.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

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ONE HUNDRED DOLLARS REWARD!!!

The above Reward will be paid to any one who will produce evidence of a failure of any of HENDY'S IMPROVED SELF-DISCHARGING CONCENTRATORS, Patented February 27th, and April 17th, 1866—which said amount is deposited for 60 days with Palmer, Knox & Co., No. 19 First street, San Francisco.

June 23d, 1866.

J. HENDY, Patentee.

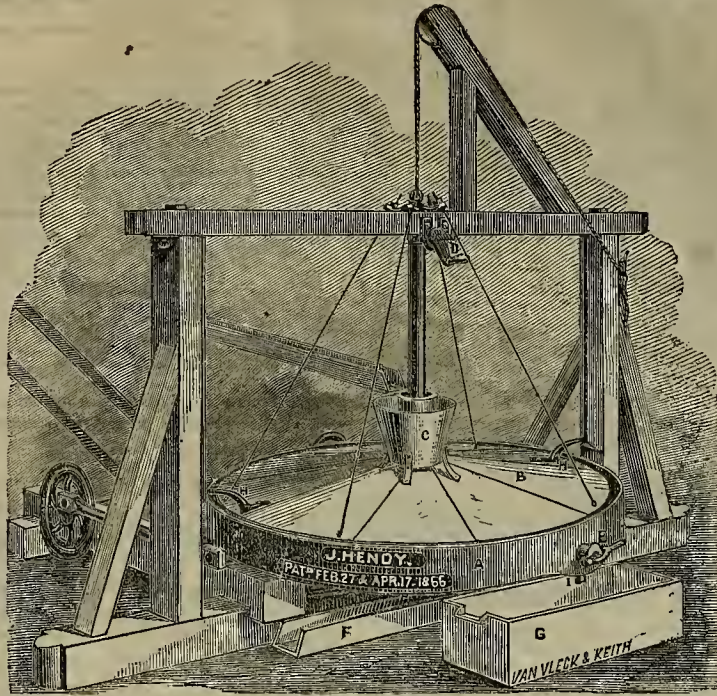


Figure 1.

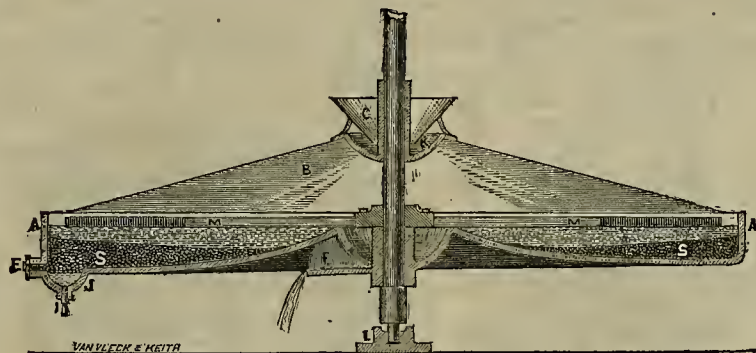


Figure 2.

Hendy's Improved Patent Self-Discharging Sulphurets

PRATER CONCENTRATOR

Is Receiving Universal Favor.

Reference is made to the following Mills which have them now in use:

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LOUISIANA MILL, near Coulterville, Mariposa County.
OPHIR MILL, near Newcastle, Placer County.
C. H. SCHENBLE'S MILL, Doty Flat, Placer County.
JERSEY BLUE, near Folsom, Cal.

SPRING HILL MILL, Amador, Amador County.
GOLDEN GATE MILL, Volcano, Amador County.
RAWHIDE MILL, Jamestown, Tuolumne County.
TRIUNFO G. & S. M. CO., Lower California, Mexico.

And in use in many other parts of this State; also in Idaho, Arizona, Colorado and Mexico.

They may be seen in operation at the GOLDEN STATE FOUNDRY, No. 19 First Street, San Francisco.

DESCRIPTION:

FIGURE 2 is a sectional view. C, is the Hopper in which the tailings are thrown. The tailings then distribute to the Distributor, B. The tailings enter the pan, A, at its periphery, and the debris discharges near its center, and passes off in the spout, F. The sulphurets discharge at gate, E, amalgam and quicksilver at plug, I, J, is a horn-shaped cavity for collecting quicksilver and amalgam. S, is the sulphurets. M, M, the agitating bars, with copper plate, coated with mercury.

The agitating bars operate on top of the pulp. They are acknowledged to be, by those using them, a valuable improvement. [An extra charge of \$15 is made when these bars are furnished.] The pan, A, shows a curve-linear bottom, which gives a more precipitous descent near its center, for the purpose of forcing the sulphurets towards the periphery. It will be noticed that the centrifugal force diminishes towards the center of the pan, for which reason the inclination is increased for the purpose above mentioned.

The pan, A, has an inclination at its periphery, towards the gate, E, for the purpose of forcing the sulphurets to the discharge gate. At the same time the center rim is level; the sulphurets, S, being forced by the oscillating motion of the machine, and are discharged through a small opening in the pan at gate, E.

JOSHUA HENDY, Esq.,—Dear Sir: I have been using three of your Improved Concentrators for the past four months, at the Spring Hill Mill, and they give perfect satisfaction.

Yours truly,

AMADOR, July 20th, 1866.

WM. H. HOOPER.

JOSHUA HENDY, Esq., San Francisco:—My Dear Sir: It gives me pleasure to inform you that the four "Improved Self-Discharging Prater Concentrators," which I purchased from you, have now been in operation in the Rawhide Mining Company's Mill for more than two months, and have more than realized my expectations.

I am free to say it is the best Machine for saving Quicksilver, Amalgam, and Sulphurets that I have ever used or seen used for that purpose. I shall take pleasure in showing any one interested the Machine in operation, who will call at the mill. I shall need four more as soon as the balance of our mill is completed.

R. P. JOHNSON, Superintendent Rawhide Mill Company.

A Circular giving further particulars will be mailed to any part of the United States free of expense. Address,

JOSHUA HENDY,

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Departure of 10th connects with English steamer for Southampton, and P. R. R. Co.'s steamer for Central America.

Departure of the 30th connects with English steamer for, and the port of the new mines.

The following Steamships will be dispatched on dates as given below:

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Connecting with HENRY CHAUNCEY, Capt. Gray.

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Connecting with OCEAN QUEEN, Capt. Weir.

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SAN FRANCISCO, SATURDAY, SEPTEMBER 29, 1866.

VOLUME XIII.
Number 13.

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Our Patent Agency.

THE PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS, has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of Letters Patent from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

SILVER PEAK AND RED MOUNTAIN MINES, NEVADA.

From a reliable source we have intelligence from the Silver Peak and Red Mountain mining districts, situated in Nye county, State of Nevada. The first named are a cluster of silver ledges, of great richness, that have been successfully worked during the past year, which has demonstrated to the satisfaction of the owners their intrinsic value.

The machinery heretofore erected at the Silver Peak mines, is a 10-stamp mill with which the company crushed their silver ores. This mill will in future be used for crushing gold ores from the Red Mountain mines exclusively, and new works of magnitude will be erected to work the ore from the silver ledges. The additional machinery now being sent forward to Silver Peak, consisting of two 100-horse power engines, and two large double flue boilers, weighing 10,000 pounds each, to each engine, will be more in conformity with the energy displayed in this discovery and necessary development of these extensive mines, and the intention of the owners to immediately erect competent reduction works, regardless of cost. It also indicates that we may reasonably anticipate a good report from what have been deemed among the best mines on the Pacific Coast.

The Red Mountain mines are in the same vicinity and adjacent to the Silver Peak, and are large, well-defined gold mines, which have been very profitably worked by the Red Mountain Company, with but indifferent machinery, the average net proceeds having exceeded forty dollars to the ton. These are the mines recently purchased by Samuel B. Martin, from Carpenter, Cammack & Co., for \$78,000. It is the intention of the present company to connect these two districts by railway, so that the gold ores of the Red Mountain can be transported with facility and cheapness to the Silver Peak mills, where every convenience exists for their reduction, and to which all interests in these districts are tributary. The mines have been, and will continue, under the supervision of S. B. Martin, one of the owners, who is now in New York. We are assured that from his energy and ability as a miner, and his reputed wealth, he will doubtless prove these mines equal to their reputation.

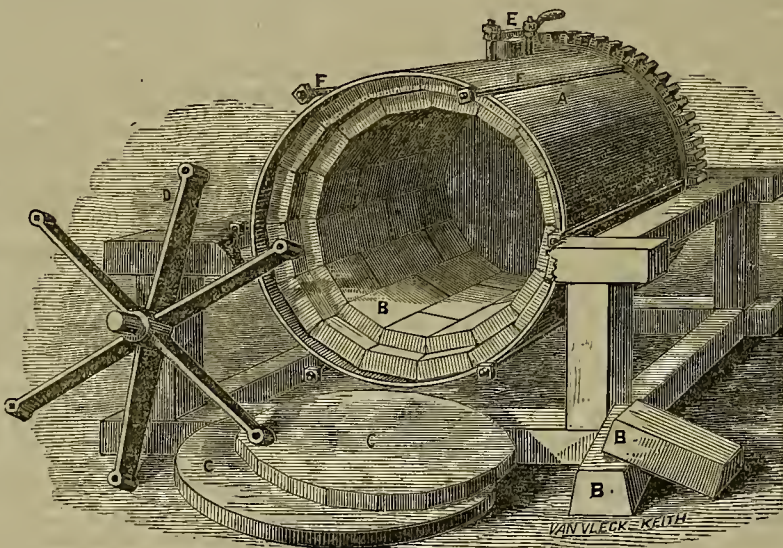
BRODIE'S IMPROVED GERMAN BARREL.

We give annexed an illustration of Brodie's improved German barrel for amalgamating gold and silver ores. The improvement consists in lining the barrel with blocks of wood, placed so as to present the end of the fiber to the action of the ore, thereby rendering the durability of the machine much greater than the former mode of constructing it in such a way as to allow the wear of the ore, in the process of working, to come directly across the fiber of the wood. It is claimed that a barrel, when constructed after this manner, will last four or five times as long as when made in the ordinary way. The expense of making the lining, in

OIL FROM SHALES AND SAND.

There appears to be a marked superiority in the character of the oil derived from shales over that obtained from sand, and, as a general thing, an increase also in the yield. The theory is that the shale is the original matrix of the oil; while that found in sand and the sandstones have been derived from the shale by a process of natural distillation, during which it has lost a portion of its most valuable properties. Hitherto but little attention has been paid to the oil-bearing shales of this State, from the fact that the oil, being contained in the shale in chemical combination, is consequently, not so apparent either to the eye

able fissures occur. California need be under no apprehensions of a lack of oil, because it is not found naturally. She possesses an abundance of the oil-bearing shales, which will yet open up a large field of industrial enterprise, and be found a source of much profit to our people. The best coal from which distillations of oil are made in Great Britain, and from which immense fortunes have been made, yields, on an average, about sixty gallons of oil to the ton. Any amount of shale may be found in this State, which will yield from thirty to thirty-five gallons, which can be worked to a handsome profit, when treated after the improved methods recently introduced into England, and which will soon be introduced into this State. The shales of Fifeshire, Scotland, yield about thirty gallons of crude oil, and twelve of ammoniacal liquor per ton of shales. This latter is an important item in England, but we are not aware that it has ever been utilized to any extent in this country. It does not come from the coal or oil proper, but is obtained from the hygroscopic water which accompanies the coal, and is formed by a union of the nitrogen of the organic substances from which the oil or coal is derived, with that portion of the hydrogen which does not enter into combination with the carbon.



BRODIE'S IMPROVED GERMAN BARREL.

this improvement, is less, by seventy-five per cent., than the price of making the ordinary barrel. The blocks of which the lining is made are very rapidly cut to fit, by a circular saw. The German barrel is generally considered, by miners and millmen, as one of the best amalgamators ever devised for saving silver, and it is also considered, by many, as equally effective in amalgamating gold.

The accompanying engraving exhibits a perspective view of the barrel, with Brodie's improvement attached. Letter B, shows the interior of the barrel with lining joints broken. Letters BB, show the blocks or lining for barrel. Letters CC, show the interior and exterior ends of the barrel. Letter D, shows the spider (with center) which, when adjusted and secured by the bolts, FF, makes the barrel complete and fit for use. Letter E, shows the aperture or plug, where the amalgam and mercury are drawn off. Letter A, shows the exterior of the barrel, which is made of boiler iron.

At the Exhibition of the Mechanics' Institute, in 1864, a premium was awarded to Mr. Brodie for this valuable improvement, for which he also obtained letters patent of the United States. As stated last week, the proprietors advertise in this paper their determination to raise the royalty on the manufacture of these improved barrels 100 per cent. after the first of November next.

or smell as that mechanically mixed with the sandstone. We have recently seen several specimens of oil-bearing shale taken from the immediate neighborhood of oleaginous sandstones, which, because they present very little indications of oil to the senses, have been passed over as worthless, while the sand near by has been highly prized, simply because it shows oil abundantly. A more close examination, aided by a small retort, will show the observer that in the case of the sand the oil is found merely as a coating upon the surface of the particles of sand, giving them an oily appearance; while in the shale the reason of no oil being visible is due to the fact of a semi-chemical or dormant admixture with its earthy matrix.

The working of shales for their oil is now being quite generally introduced throughout the Atlantic States, and present indications lead to the almost inevitable conclusion that it is to this source, instead of to wells, that the world is to look for its permanent supply of petroleum. Excavations in the oil regions are everywhere developing immense masses of oil-bearing shale, far surpassing in extent the coal deposits. The natural oil is now considered but an accidental occurrence, probably resulting from gases under great pressure, and will be found only in those localities where favor-

STILL ANOTHER SUBSTITUTE FOR EMERY.

We have already spoken of the recent introduction of furnace slag for emery. We have since learned of still another substitute, which requires but little or no waste in the process of preparation—pulverized glass. A party in New York has recently commenced the preparation of this new material on a large scale. They buy up old glass—such as broken bottles, window glass, etc. The great trouble heretofore has been to reduce the material to the required degree of fineness. Stamping and bolting after the manner of bolting flour has to be resorted to, to reach the required degree of fineness. We are told that some of the machinists in New York, who have given this new preparation a thorough trial, prefer it to the best prepared emery.

THE GLOBE FOUNDRY AT STOCKTON.—This foundry and machine shop, which has already become quite an extensive establishment, is still further enlarging its capacity. We learn from a private letter, that the proprietors are now putting up a fine brick workshop in addition to their previous shop-room. This establishment turns out good work. The engines for the steamer Corn were built there. The advertisement of Messrs. Keep, Blake & Co., proprietors, will be found in our paper.

THE DOCTORATE OF LITERATURE is the name of a new academical degree created by the University of London, as more appropriate, when conferred upon a man of letters, than that of Doctor of Laws.

TO CORRESPONDENTS.—We acknowledge the reception of the following interesting communications: "J. A. M." concerning fragments of meteoric iron and other specimens; from "W. T. Rickard," of Virginia City; "J. S. L." of Meadow Lake, and "G. J." of Auburn.

[Written for the Mining and Scientific Press.]

SEVENTH ANNUAL FAIR OF THE SAN JOAQUIN AGRICULTURAL SOCIETY.

[Held in the City of Stockton during the week ending September 22d, 1866.]

The Fair opened on Tuesday morning. The Pavilion was handsomely decorated, and presented a very fine and lively aspect, although but partially filled, and it was not until the close of the second day that the tables presented a full appearance. Upon the right, in entering the Pavilion, are the vegetable stands, well filled with fine looking articles, not many of monstrous size, but all just about the thing for the table. Samples of wine were displayed on the south side, agricultural implements, housekeeping articles, and hardware on the eastern extremity, while the north side was almost entirely devoted to sewing machines. The tables in the center were laden with rich burdens of fruit, and those between the fruit and the sides of the hall were claimed by the ladies for the exhibition of their handiwork. Having thus given you a bird's-eye view of the entire hall, I will now make note of the various departments.

The first prominent object on entering is a grocery wagon, manufactured for R. B. Parker & Co., by Matteson, Williamson & Stowell, as fine a piece of work as can be produced in the State, and one which speaks well for the mechanics of Stockton. Near this is a table of preserved fruits, jellies, pickles and wines; as the vessels were all sealed there was no opportunity of testing them, but they looked the embodiment of luxurious living.

The fruits were superb; but, like the wines and jellies, "hands off." The favorites seemed to be a plate of peaches and one of nectarines, which were by far the handsomest fruit I have ever seen. They were raised at Mountain Pass, Tuolumne county. Besides these there were others of no mean merit, and fruit-growers in other parts of the State will have look to it or they will be behind in the race. The apples were in great variety, with a list of names too long to be embodied in this report. Quinces large and aromatic, and pears of a size and quality to suit the most fastidious, were also exhibited.

What wonder is it that men love wine, when the fruit from whence it is produced presents such an inviting appearance? Such large bunches of grapes, with a promise of fine flavor, almost tempted one to wish he were a boy, with a low fence around the vineyard, no dogs about, and a propitious night. L. F. Jarvis, of Tuolumne county, exhibited sixty varieties, and Mr. Despois, of Stockton, as many more, besides a great number of smaller lots.

In dried fruits Mrs. Bateman seemed to take the lead. Her pears, apples and peaches were more like wax-work than dried fruit, so clear and beautifully cured; but, alas! here, too, it was "hands off." The exhibit of this branch of industry was not so large as it should have been, as there is no greater source of luxury during the winter months.

The exhibit of cereals was meager, indeed; but few samples, and those mostly if not all by grain buyers. They were fine productions, but why did not the farmer who raised them make the entry and compete for the premium, and tell when he sowed, and how much seed he spread to the acre, how much the land produced to the acre, and give such other information as would be of value to his neighbors, rather than have the broker choose the best from hundreds of farms, and stick up a few little sacks, and leave those who desired information to go and buy it by hard experience. This being now the staple product of this district, large premiums should be offered, and each exhibitor should be compelled to give an accurate statement of the manner of raising his grain. By making the premium large, farmers, in hope of receiving it, would take the trouble to be on hand, and would gain information which would add materially to the wealth of the country. Give smaller premiums to horse races, and add to the premiums for staple products.

The agricultural implements at the Pavilion are nearly all of Eastern manufacture, and have been so often described that it would be tiresome here. There is one innovation this year, however, which is worthy of notice, and that is the Horse Fork, a trial of which took place on Friday. There are two, both made in Stockton, which are competing for the supremacy; they are improvements on Eastern manufacture. I refer to Overhiser's Grain Elevator and Matteson's Horse Fork. These forks do the work of a large number of men in passing the grain from the stack to the threshing machine.

Hutchinson's Wine and Cider Mill, for extracting the juice of the grape without cracking the seeds, is of great advantage to wine makers, as it enables them to produce wine without the acrid taste which the broken seeds always impart to it.

The Milking Machine, illustrated in the Press a short time since, is the source of much merriment and no little wonder.

Of wool there is not a single sample from the district. Mr. McConnell, of Sacramento, has a very fine lot of fleeces of Merino wool, of his own growing, besides a large number of samples from abroad.

Perhaps the most attractive part of the Pavilion was the stand occupied by Mr. Prevost's silk worms, and their productions, and I believe he has been eminently successful this season in keeping his tender pets alive while traveling. He exhibits the eggs, the young worm just hatched, the worms feeding, and the moth. Some of the eggs were hatched in the hall, thus giving the curious a fine opportunity of gaining information. The samples of cocoons are in great variety, and the ladies appear to take great interest in this branch of culture; the majority of the samples being entered by ladies.

Minerals do not bear much fruit in this part of the world, the only collection being the property of Rev. A. S. Nicholson. Quite a large cabinet, although collected during the last year and a half, some of the specimens being very rare.

On Thursday evening the Hon. F. M. Pixley delivered the address. He spoke over an hour, and was listened to with great attention, and his remarks were well received and heartily cheered at times; but what connection they had with agriculture would have been hard to decide, but for the place. With his usual tact, he said some things to please all and offend none.

At the Fair Grounds, or rather the Society's Race Track, the attractions were not so numerous. The stock, what there was of it, was good; but here again can be seen the lack of interest on the part of the farmers.

The colts shown are some of them very fine, and evince much care on the part of their breeders, and give promise that at no very distant day fine stock will not be scarce in this section.

The number of thorough-bred cattle was very limited, but good, and the sheep and swine would do credit to any exhibition. A lot of Cashmere goats attracted much attention, and were really a pleasing and beautiful sight.

The races, although attracting great crowds, were but small affairs.

The Fair is said to be a success, as compared with former ones. It may have been a success financially, but how far it succeeded in the object for which it is ostensibly held, may be a matter of speculation. Until the farmers will take more interest in the products of the farm than in a scrub-race for a small purse, they cannot expect to be much benefited by fairs.

ORRIN.

COARSE AND FINE GOLD.—It is said to be a singular fact, often remarked by buyers of gold dust in this State, that the large lumps of gold are almost always poorer in quality, than the smaller or ordinary grains obtained from the same locality. The above fact was communicated to the California Academy of Natural Science, and published in the proceedings of September 5th, 1864.

SODIUM AMALGAM.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, AT BUFFALO.

At a late meeting of the American Association for the advancement of science at Buffalo, Professor Henry Wurtz, the American discoverer of the application of sodium to gold and silver amalgamation, read a paper entitled, "On the Utilization of Sodium in Gold and Silver Amalgamation," the substance of which is reported as follows, by a correspondent of the New York Tribune:

Prof. Wurtz stated that very much discussion has been roused during the past year, arising out of his recently announced discovery of the extraordinary effects of the alkali metals in amalgamation; and much further progress having been made, he thought the Association would be interested by a subject now regarded as of so great public importance. The investigations made last year by Prof. B. Silliman, on California ores, many of which were communicated to the National Academy of Sciences last winter, and widely copied in the newspapers, were continued with confirmatory results.

SOME OBJECTIONS CONSIDERED.

Some objections to the use of sodium for silver ores, on the part of a California metallurgist named Kustel, were then briefly discussed. Kustel has erred mainly in supposing that the purpose of the sodium amalgam was to decompose silver ores by extracting their sulphur by sheer force of chemical affinity. The rapid and perfect collection and separation from a slime or pulp of contained and diffused silver-amalgam by the use of sodium-amalgam would alone give it an obvious importance; but it has other values when properly understood. Kustel's experiments having been based upon an incorrect idea of the mode of action, have but little applicability *pro or con*, and inconsistencies were pointed out in his conclusions. Kustel's conclusions that iron pans cannot be used with sodium, for instance, is shown to be fallacious by very numerous working results now on record. In any case it is fortunate that one negative result has little weight against concurrent positive results of many others. Mr. Kustel, however, admits the value of sodium for gold ores, and others in California experienced in amalgamation, do not concur with Mr. Kustel in his opinion with regard to silver ores.

[The objections of Mr. Kustel, above referred to, were originally published in the MINING AND SCIENTIFIC PRESS of November 18th, 1865, and March 31st, 1866. We presume that Mr. K. will be abundantly able to sustain himself in his objections.]

As was to be expected, there are in England also those who cavil at the "new fangled" method. One correspondent of the same journal objects, partly on the ground that the "sodide of gold" has not yet been discovered. Another orally writes that "the sodium process is alike unphilosophical and commercially impracticable." Some words were devoted to the conflicting claim to priority of discovery which was entered by Mr. William Crookes, one of the most learned, industrious and successful of English scientists. The graceful concession of this point, which Mr. Crookes is considered of late, both by scientists and jurists, to have made, by his own silence and by publications in the journals ostensibly authorized by him, it is thought will not prove any appreciable detraction from the laurels so well and worthily won by him in the field of chemical discovery.

ITS AUTHENTICITY AS A MODERN DISCOVERY CONSIDERED.

The most surprising articles elicited by this discovery, in transatlantic journals, have emanated from certain persons who have denied the authenticity of the discovery altogether, and claimed that the use of sodium in amalgamation of ores has already actually been a matter of publicity for centuries. Mr. John Calvert and another writer (anonymous) have put forth the astounding assertion that extracts can be "given from more than 100 works in various languages," showing that not only sodium but magnesium has been used in this way from time immemorial. Three works, are referred to by name—Schwartz's "Alchymia de Salibus," Alvaro Alonzo Barba's "Art of Metals," and Roger Bacon's "Ars Omnia." Schwartz's book probably does not exist upon this continent, but Prof. Wurtz has been so fortunate as to find a copy of the very edition of Barba, referred to, in the hands of Prof. George J. Brush of Yale College, who kindly lent the precious volume, and he exhibited it to the Section. As could have been anticipated, there is nothing in it indicating, in the remotest manner, a knowledge of sodium, much less of its use in amalgamation. Prof. W. expresses his surprise, however, to find that at

the time this book was written, in 1640, almost every refinement in the art of amalgamation, and in other branches of gold and silver metallurgy practised at the present day, excepting the use of sodium (and not excepting many supposed to be of modern origin) was known and used by Barba and his contemporaries. As regards the still more ancient work of Schwartz referred to, Prof. W. thinks it may be said with reason that a person of lively imagination could find plainly set forth, in the jargon of alchemists, every one of the discoveries of the nineteenth century, beside a multitude of other discoveries, either yet to be made or never to be made.

The third work named, that of Roger Bacon, it appears has never been published, but exists according to Mr. Calvert, as a manuscript of immense magnitude; from which he copies the following from a passage on "The Metal of Salt," under the heading of "The Magic of Salt:" "It is well that the vulgar understand not the good and great art of salt, as if it were known to all, riches would no longer be held rare, or even respected, as with this metal much gold can be obtained, and such great virtue doth it contain, that one piece of such size that will cover the top of the small finger, will work wondrous magic throughout a great mass of such worthless stuff that no man would buy for the smallest coin; yet when this and other metals well known to all men, shall lovingly and speedily unite in one common mass, then the adored of all metals becomes life, and is born unto man, and true and real gold may be taken from those common metals without loss to them in weight or virtue, so that by great craft, cunning and magic, not enjoyed by common men, good gold, never again to be lost, is transmuted from the vilest of dross; and so men may enjoy riches without prying into others money-bags or borrowing from those who have little to lend."

This is, of course, set forth by Mr. Calvert as his own translation of the original Latin manuscript, and is interpreted by him as relating to the extraction of gold from ores by amalgamation; but Prof. W. denies the possibility of any such interpretation, regarding it rather as describing merely one of those obscure and apocryphal methods of transmuting other metals into gold, in which the alchemists so abound, and he suggests that even were it an unmistakable description of the use of sodium in amalgamation, it would still have no bearing whatever on the question at issue, not being cited from a published work, but from one which has probably been as much concealed from the public eye as if it had been newly exhumed from the catacombs of Egypt.

ITS EXPLOSIVENESS CONSIDERED.

The last branch of the subject touched upon related to the very recent and wonderful announcement from an unknown source, so widely and persistently paraded in the public press, of the amazing *explosiveness* of the amalgam of sodium; one of the most prominent of the New York dailies having, for example set forth in a leading article, that while metallic sodium is a "harmless substance" (an erroneous statement so very grave and fraught with danger as to be inexcusable even of the plea of ignorance) on the other hand, "the terrors of nitroglycerine itself dwindle into insignificance when compared with those of the new compound termed sodium amalgam," and that "one ounce of sodium amalgam is equal to twenty-five pounds of gunpowder," and similar rubbish *ad nauseum*. With regard to this latter comparative statement Prof. W. remarked, that, according to this the samples of sodium amalgam lying on the table before him were equal to six tons of gunpowder, and that he had often made with his own hands, and in one operation, in one day, a quantity equal to 100,000 pounds of gunpowder. His chief object in even alluding to a matter which he was aware was to a chemist merely

"A thing for laughter, flcers and jeers."

was to explain the cause and origin of such a fantastic and apparently puerile hoax. It was simply an ingenious but futile *commercial trick*, the motive for it having been the hope of embarrassing the transportation and introduction of amalgams of sodium into the mining regions by those legitimately entitled to introduce it, until the completion of certain arrangements for infringing upon the patent rights that have been granted by the United States in the premises.

In the course of Prof. Wurtz's remarks, he was interrupted by questions from Prof. Stoddard, Perkins and Hadley.

At the conclusion of the paper, Dr. President Barnard remarked that he felt great interest in the discovery made by Prof. W., and thought he might be regarded as one of the benefactors of the world in making two grains of gold available where there was but one before.

In response to an inquiry, Prof. Wurtz said that the discovery would lead to an extensive development of the manufacture of sodium, aluminum, magnesium, calcium, etc.; to render them cheap and useful metals in the arts.

Mechanical.

IMPROVEMENTS IN THE MANUFACTURE OF IRON AND STEEL.

There seems to be no limit to the improvements which are being introduced to cheapen and improve the manufacture of steel. The success of Mr. Bessemer appears to be the initial from which most of the later improvements take their start. His process has supplied the required clue, and has given us the raw material at a price so greatly reduced from its former cost, as to lead to the impression that steel must soon become an almost universal substitute for iron. Several individuals have taken up the process where Mr. Bessemer left it, and, by subsequent manipulation, have greatly improved the quality of the steel. Messrs. Brown & Co., of Sheffield, England, have recently been conducting some extensive experiments in this direction, the results of which are considered of great importance. Those gentlemen take the Bessemer ingots, re-heat them and put them through a process of rolling and hammering, which adds vastly to their strength. This process may be carried to a greater or less extent, according to the purposes for which the iron is wanted. To form a cylinder for a heavy gun, for instance, the hammered mass of iron is subjected to the additional process of a further condensation, by the use of a punch, made to move rapidly outward from a point equidistant from the extremities. A mandril is then inserted, and the mass is elongated by being forced through rolls to carry still further the process of condensation, and impart to the steel a superior quality of metal and accuracy of dimensions. Of course the various manipulations involve a large amount of labor; but for specific purposes, such as for the manufacture of rifles and heavy ordnance, the increased strength and solidity imparted to the iron, added to the diminished weight, is considered a fair equivalent. The process is about to be applied to 7-inch ordnance. It has already been applied to hollow marine and other shafting, railway and other axles, locomotive and other boiler tubes, etc., where great strength with small weight is an important desideratum. The results thus far are reported as having been exceedingly satisfactory.

Another improvement has been announced in the manufacture of iron, for which a patent has been taken out by Mr. John Onions, of London. This iron is said to be made of ordinary pig-iron, and manufactured at a cost of twenty-five per cent. under that of charcoal iron, and is its equal in every respect, as regards quality. Samples have been in various hands for trial, and uniform success has been the result. The process by which this result is obtained is not given.

THE PRODUCTION AND CONSUMPTION OF IRON IN THE UNITED STATES AND ENGLAND.—The United States Bureau Commission have laid before the Secretary of the Treasury a report in relation to the iron interest of this country, which contains much valuable information. From this report it appears that the United States has been, since 1830, the largest consumer of iron of any nation in the world. England produces the most iron, but exports more than she consumes. In her manufactures for export and home use, she employs 160 pounds per head of her population—her home use does not exceed 80 pounds. The home use for the United States is about 130 lbs. per head, about one-fifth of which is imported. Our natural facilities for the production of iron and steel are not surpassed by those of any country in the world, and we are fast increasing our capacity to take advantage of those facilities. At our present rate of progress, we shall soon become the largest producer, as well as consumer, of iron in the world. The commission reports that in the manufacture of steel, our country has nearly emancipated itself from dependence on others. The American cast steel has been tried throughout all the manufacturing States by the most skillful manipulators of fine cutlery, tools, and both heavy and delicate machinery, and the evidence of its excellent quality is beyond dispute.

THE CRANK MOTION.—An erroneous impression prevails with many that there is a great loss of power in converting rectilinear into rotary motion by means of a crank, as in the case of the steam engine. When the crank of a steam engine is at right angles with the connecting rod, it is claimed that the power of the steam is exerted with the full advantage of the crank acting as a lever to turn the shaft; but when the engine is near its center, with the crank nearly parallel with the connecting rod, the power of the steam seems to be applied to a great disadvantage, and hence the idea of the loss of power as above. In examining this matter, it should be observed that when the crank is at right angles with the piston, a movement of the latter through one inch of stroke will move the crank but about one inch; but when the crank is nearly in line with the piston, a movement of the latter of only one inch will move the crank several inches. Hence, in this as in other mechanical movements, what is lost in power is gained in time. Diagrams have been constructed which prove, by mathematical demonstration, that a given amount of steam will do quite as much work in one part of the stroke as in another. In passing the centers, an inch motion of the crank is effected by a very small motion of the piston, which latter is produced by a corresponding small expenditure of steam. This expenditure is sometimes so small as to be unable to overcome the friction and resistance, in which case the engine stops—not from the loss of power expended in converting the rectilinear into rotary motion, but in consequence of the small amount of steam which can be brought to bear in producing the increased motion of the crank with the decreased motion of the piston.

A FRENCH "WOLFE" ENGINE.—Mons. P. Vabe has got up an engine with two pistons on one rod, on Wolfe's principle. Steam is distributed by one valve. He claims that the steam in the large cylinder, whose area is double that of the small one, is as effective as it has been in the small one; that is, the effect of the steam is doubled. There are many experiments on this kind of engine, indicating that the high pressure and low pressure engines, with the aid of surface condensation, are likely to work together; provided, of course that the theory of the expansionists be not proved false, and that of the non-expansionists confirmed by these numerous experiments. We confess our faith in the utility of expansion, and believe that when locomotive-boilers and engines are put on board ship, and exhaust into low pressure boilers, there will be a great saving of fuel.

A PROGRESSIVE ENGINEER proposes to connect New York with Jersey City by a cast iron tube laid in the bed of the river, five feet in diameter. The tube is to be cast in lengths of twelve feet, with spherical joints to allow for change of position, and is to be worked by the pneumatic method, for the purpose of transporting the Erie Railroad's freight from Look Dock to the Duane street pier, in New York. The plan is said to be perfectly feasible, while the principle is one that can be advantageously applied on a larger scale. All the railroad lines diverging from New York will eventually enter it under ground, and concentrate in a single subterranean depot. Access to this will be much the most cheaply and expeditiously attained by the New Jersey and Long Island railroads, through tubular iron tunnels, laid on the beds of the Hudson and East rivers.

A NEW METHOD TO AVOID BOILER INCrustation.—An apparatus has been invented to prevent the incrustation of boilers, which is certified to have perfectly succeeded. It proceeds upon the principle of the inversion of the galvanoplastic process, in which metals are made to adhere on proper surfaces, by deposit from the solution. In this arrangement the galvanic effect is repellant and prevents the adhesion of particles.

The largest mass of rolled iron exhibited in the London Exhibition of 1851, weighed one ton and a half, and this was considered extraordinary. In the Exhibition of 1862, the heaviest specimen weighed no less than thirteen tons.

At the Universal Exposition of 1867, Napoleon and the Empress Eugenie, will figure as exhibitors of workmen's houses, and may be fortunate enough to carry off a medal.

Scientific Miscellany.

ATMOSPHERIC WAVES.—Prof. C. M. Hough of the Dudley Observatory, described at the late meeting, at Buffalo, of the American Association of Science, a very sensitive, automatic registering barometer constructed by him, which accurately records fluctuations of the barometer down to one-thousandth of an inch. By the use of this instrument, he has been enabled to make some most interesting observations with regard to the movement of storms and winds, and the ordinary action of the atmosphere. This sensitive instrument records the most minute pulsations of the atmosphere. By it he has been able to prove that there is a great similarity between atmospheric waves and the waves of the ocean, and that the atmospheric waves exhibit much of the same regularity and phenomena as do those of the ocean. He has been enabled to detect in the atmosphere similar movements to the great ocean swell, with smaller waves or ripples moving independently upon the larger waves. These atmospheric waves are of vast extent and height. One of these sometimes reaches over a vast extent of country. For instance the barometer may be highest at St. Louis, with a gradual depression shown by intermediate points of observation, until the lowest point is noticed at New York, showing that the crest and depression of the wave are separated by a thousand miles of space! His barometer is never at rest; it is constantly rising and sinking. Prof. Tillman, after expressing his enthusiastic admiration of the instrument of Prof. Hough, suggested that the atmospheric waves described by the latter might possibly be waves of density and not waves of form.

The extreme compressibility of the atmosphere, and the fact that the disturbances thereof must have their origin in its lowermost regions, would seem to lead to the inevitable conclusion that variations of density must certainly form the most important element in the fluctuations of the barometer. Atmospheric waves, with the exception of those of a tidal character, must be wholly produced by local compressions near the earth's surface; in fact we do not see how they can be waves at all, in the proper signification of the term. They must be mere protuberances, resulting from compressions below—analogueous to a disturbance of water from an underneath or outside influence, and not from an aerial action upon its surface.

PHOTOGRAPHING CANNON BALLS.—To such perfection have the mechanical appliances and chemical action of photography been carried, that the image of a cannon ball has been caught and fixed, so that the projectile could be seen protruding from the cannon's mouth, partially concealed by the gun, while in the act of proceeding on its mission. This fact has recently been communicated to the British *Journal of Photography*, the editor of which periodical was shown several photographs of this description at the Woolwich Arsenal, England. The gun itself, by the aid of nicely adjustable machinery, aided by electricity, was made to expose and cover the sensitive plate. Such an act would, of course, be entirely beyond the capacity of the most delicate eyes and ears to accomplish. The entire process is fully described in the above mentioned journal.

INTERESTING FOSSIL DISCOVERY.—An interesting fossil discovery has been made in the Upper Wenlock shale of Dudley, England. Mr. L. P. Capervell has found a very perfect specimen of *Goniophyllum pyramidale* in this deposit, the first occasion in which this fossil has been found in British Silurian strata. It has been identified by Herr Lindstrom, the celebrated author of the "Zoantharia Rugosa."

IODINE A SOLVENT FOR GOLD.—We mentioned some time ago the discovery by N. Nickles, of some new solvent of gold, among which was nascent iodine. Mr. Nickles has now found that iodine, when not in the nascent state, will dissolve gold, when aided either by pressure or the influence of sunlight.

HOW TO RENDER PHOTOGRAPHS INDESTRUCTIBLE.—The cause of the destruction of photographs, apparently by the action of time only, is generally considered to be due in reality to the presence of a minute quantity of hyposulphite of soda. Hitherto the only plan of getting rid of this agent has been long and continuous washing in hot and cold water. Dr. Smith suggests oxidizing the hyposulphite of soda into sulphate of soda (which is harmless) by dilute peroxyd of hydrogen. The strength of the solution does not require to be great. If diluted a thousand times, a solution is obtained capable of oxidizing hyposulphite. It appears all the hyposulphurous acid is instantly converted.

AN AMALGAM OF MAGNESIUM may be formed by heating quicksilver in the presence of magnesium, which will oxidize with wonderful rapidity, decomposing water with the evolution of hydrogen gas. This result is accomplished when but a very small percentage of magnesium is present. This fact, we believe, is quite new; at all events it was recently announced in the proceedings of the Franklin Institute. This amalgam, it will be perceived, is quite similar in its action upon water, and in its affinity for oxygen to the sodium amalgam, now so general known among miners, as a medium for saving the precious metals.

SCIENTIFIC FACTS.—The violence of the expansion of water when freezing is sufficient to cleave a globe of copper, of such thickness as to require a force of 28,000 pounds to produce a like effect.

Heat rarifies air to such an extent that it can be made to occupy 5,550 times the space it did before.

The explosive force of close confined gunpowder is six and a half tons to the square inch.

Water, when converted into steam, increases in bulk 18,000 times.

During the conversion of ice into water, 140 degrees of heat are absorbed.

The greatest artificial cold ever produced is ninety-one degrees Fahrenheit.

THE SPHYMOGRAPH is a new and ingenious invention for registering the human pulse. The short arm of a tight lever is applied to the pulse, and at the end of the long arm is a very delicate pencil, which passes over a roll of paper, the roll being moved by clock-work. The result is a wavy line, which differs according to the age and condition of the patient and shows, clearly, phenomena which would otherwise escape observation.

BLEACHED INDIA RUBBER.—A process has been discovered of bleaching India rubber so as to make it perfectly white, and when hardened it can be manufactured into collars and cuffs. The process is a chemical one, but the fumes of the drugs used are so fatal to the workmen engaged, that they have to be encased in armor, and are supplied with pure air by means of pumps, the supply being drawn from other apartments than the one in which they work.

SINGULAR FACT IN TELEGRAPHY.—A correspondent of an English paper, speaking of the Atlantic cable, says that from daylight till 2 o'clock in the afternoon the cable generally works with great difficulty, after which time the working grows easier and more rapid until dark, and all through the night it works easily and well. The editor of the *Telegrapher* has often noticed this fact on land lines.

THE EYE OF A FLEA.—Puget succeeded in adjusting the eye of a flea, so that by using a microscope he was able to see objects through it. It diminished the size, but at the same time multiplied every object. For instance, a soldier appeared like an army of pigmies.

A NEW MINERAL, to which the name of laurite has been given, has lately been found in Bordeaux, and a description of it laid before the Paris Academy of Sciences, by M. Wohler. It is found mixed with the ore of platinum, and occurs in the form of small globules, not above half a millimetre in diameter.

THE DIAMOND EXCEEDS.—The crystallized protoxide of copper, recently found in crystals transparent to red light, in Chessy (Rhône) is said to far exceed in refractory power even the diamond. M. Fizeau has recently shown that both expand under heat.

MR. AMY assents to De Celamy's opinion that the apparent acceleration of the moon is due to real retardation of the earth, arising from friction in the tidal movement of the waters.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Friday, September 21.

AFTERNOON SESSION.

35 shs Ophir at 200 per foot.
 12 shs Ophir at 200 per foot, b. 3.
 24 shs Ophir at 200 per foot, s. 3.
 22 shs Yellow Jacket at 702½ per ft. s. 30.
 8 shs Yellow Jacket at 690 per ft. s. 30.
 2 shs Yellow Jacket at 710 per foot, b. 30.
 6 shs Yellow Jacket at 700 per ft. s. 10.
 1 sh Yellow Jacket at 700 per foot, b. 30.
 6 shs Yellow Jacket at 690 per foot, s. 12.
 2 shs Yellow Jacket at 690 per foot, s. 15.
 6 shs Chollar-Potosi at 114½ per ft. foot.
 8 shs Belcher at 112½ per foot.
 2 shs Belcher at 112½ per foot, s. 3.
 3 shs Belcher at 115 per foot, b. 30.
 4 shs Gould & Curry at 600 per foot.
 15 shs Overman at 4½ per share, s. 30.
 21 shs Imperial at 8½ per share, s. 30.
 10 shs National Ins. Co. at 77 per ct.
 Amount of sales.....\$ 33,351 00

Saturday, September 22.

12 shs Ophir at 205 per foot.
 60 shs Ophir at 210 per foot, b. 30.
 12 shs Ophir at 207½ per foot.
 16 shs Yellow Jacket at 695 per foot.
 4 shs Yellow Jacket at 690 per foot, s. 3.
 6 shs Yellow Jacket at 695 per foot, s. 10.
 2 shs Yellow Jacket at 707½ per ft. b. 30.
 1 sh Yellow Jacket at 705 per foot, b. 30.
 3 shs Yellow Jacket at 695 per foot, s. 30.
 2 shs Yellow Jacket at 690 per foot, s. 10.
 2 shs Savage at 1110 per foot.
 1 sh Savage at 1110 per foot, s. 30.
 3 shs Savage at 1105 per foot, s. 3.
 1 sh Savage at 1105 per foot, s. 30.
 1 sh Savage at 1135 per foot, b. 30.
 1 sh Savage at 1107½ per foot, s. 30.
 3 shs Savage at 1130 per foot, b. 30.
 1 sh Savage at 1112½ per foot, a. 30.
 3 shs Savage at 1130 per foot, b. 30.
 1 sh Savage at 1102½ per foot, s. 30.
 1 sh Savage at 1100 per foot, s. 3.
 1 sh Savage at 1125 per foot, b. 30.
 1 sh Savage at 1125 per foot, b. 30.
 1 sh Belcher at 110 per foot.
 5 shs Belcher at 100 per foot, s. 30.
 5 shs Chollar-Potosi at 115 per foot.
 5 shs Imperial at 81 per share, s. 30.
 7 shs Imperial at 80 per share.
 10 shs Empire M & M Co. at 80 per share, b. 30.
 10 shs Overman at 4½ per share, s. 30.
 35 shs Overman at 4½ per share.
 60 shs Overman at 4½ per share.
 Amount of sales.....\$ 45,791 00

Monday, September 24.

6 shs Yellow Jacket at 995 per foot.
 4 shs Yellow Jacket at 710 per ft. b. 30.
 3 shs Yellow Jacket at 700 per foot, b. 10.
 9 shs Yellow Jacket at 622½ per foot, s. 30.
 14 shs Yellow Jacket at 692 per foot, s. 30.
 2 shs Yellow Jacket at 795 per ft. s. 3.
 1 sh Yellow Jacket at 795 per ft.
 1 shs Yellow Jacket at 700 per foot.
 2 shs Yellow Jacket at 702½ per foot.
 1 sh Yellow Jacket at 701 per foot, s. 3.
 3 shs Yellow Jacket at 701 per foot.
 1 sh Yellow Jacket at 695 per foot, s. 30.
 96 shs Ophir at 202½ per foot.
 12 shs Ophir at 204 per foot, s. 3.
 12 shs Ophir at 205 per foot, b. 30.
 12 shs Ophir at 205 per foot.
 12 shs Ophir at 207½ per foot.
 12 shs Ophir at 205 per foot.
 36 shs Ophir at 210 per foot.
 12 shs Ophir at 212½ per foot, b. 30.
 16 shs Gould & Curry at 600 per foot.
 1 sh Belcher at 96 per foot, s. 3.
 3 shs Chollar-Potosi at 117½ per foot.
 1 sh Chollar-Potosi at 117 per foot, a. 3.
 2 shs Chollar-Potosi at 119 per foot.
 5 shs Chollar-Potosi at 121 per foot, s. 3.
 1 sh Savage at 1110 per foot.
 10 shs Overman at 10 per share.
 5 shs Overman at 19½ per share, s. 30.
 5 shs Overman at 19½ per share.
 5 shs Overman at 19½ per share, s. 3.
 6 shs Overman at 20 per share.
 10 shs Overman at 19½ per share, s. 30.
 10 shs Sierra Nevada at 4 per share.
 10 shs Sierra Nevada at 4½ per share.
 2 shs Imperial at 81½ per share.
 2 shs Imperial at 82 per share, s. 30.
 10 shs Imperial at 81 per share, b. 30.
 5 shs Imperial at 84 per share.
 20 shs National Ins. Co. at 75½ per cent.

AFTERNOON SESSION.

12 shs Ophir at 210 per foot, b. 30.
 12 shs Ophir at 205 per foot.
 12 shs Ophir at 202½ per share, b. 30.
 1 sh Chollar-Potosi at 120 per foot.
 1 sh Savage at 1110 per foot.
 2 shs Yellow Jacket at 695 per foot, s. 30.
 1 shs Yellow Jacket at 697½ per foot, s. 10.
 1 sh Yellow Jacket at 710 per foot, b. 30.
 1 sh Yellow Jacket at 700 per foot, b. 30.
 1 sh Yellow Jacket at 705 per foot, b. 30.
 1 sh Yellow Jacket at 697½ per foot, b. 10.
 2 shs Yellow Jacket at 697½ per foot, b. 10.
 2 shs Yellow Jacket at 690 per foot, b. 10.
 1 sh Yellow Jacket at 700 per ft. b. 30.
 8 shs Yellow Jacket at 635 per ft. s. 30.
 3 shs Yellow Jacket at 635 per foot, s. 10.
 4 shs Belcher at 90 per foot, a. 3.
 2 shs Belcher at 90 per foot.
 1 sh Belcher at 91 per foot.
 1 sh Belcher at 92 per foot, b. 30.
 10 shs Imperial at 85 per share, b. 30.
 10 shs Overman at 20½ per share.
 40 shs Overman at 20 per share.
 10 shs Overman at 21 per share, b. 21.
 20 shs Overman at 19½ per share.
 6 shs Confidence at 50 per share, s. 3.
 2 shs Cal Steam Nav. Co. at 72½ per ct., s. 3.
 Amount of sales.....\$ 62,715 00

Tuesday, September 25.

4 shs Crown Point at 570 per foot, a. 3.
 4 shs Crown Point at 830 per foot, s. 3.
 4 shs Crown Point at 900 per foot.
 4 shs Crown Point at 900 per foot, s. 3.
 4 shs Crown Point at 900 per foot, b. 3.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, Sept. 29th, 1866.

The Money Market presents no new features worthy of especial note. There is a slight augmentation of deposit balances in some of the banks, and we hear of less stringency in many quarters, although the demand continues active upon prime paper and other first-class securities; at 1@1½ cent. per month. Little or no difficulty is experienced in mercantile circles in obtaining all the facilities required for legitimate business purposes, and the merchants generally are in a sound and healthy condition. There is considerable doing in Real Estate, and an unusually large number of first-class improvements are vigorously under way in different portions of the city. For these purposes money is readily obtainable at low rates of interest.

Receipts of Treasure from the interior are about up to the usual average, and during the current month amounted to some \$4,000,000. The Sub-Treasurer, in this city, shipped East, on Government account, \$500,000, by the steamer St. Louis, making an aggregate of \$8,500,000 thus far since January 1st.

Bullion is meeting with rather more inquiry, and it is believed that important shipments of Silver Bars will be made to China by the two vessels now loading at this port. Gold Bars are a shade better at \$40@845, and Silver is quotable at about 1½ cent. discount for round lots.

Currency Bills on the Atlantic cities are offered at 39@39 cent. premium on Gold. Sight Drafts, payable in coin, are selling at 2¼ cent. premium, and Telegraphic Transfers are made at 3 cent. premium. Sterling may be quoted at 48½@49d. for best Bankers' Bills; Commercial do. at 49½@50d.

Our latest telegraphic advices from the East, to the 27th inst., quote Gold at 145, and Sterling Exchange at 108@108¼.

City Stocks have been dealt in to a limited extent during the past week. Steam Navigation Company sold at 72½ cent., or \$725 per share of \$1,000, and closed yesterday at 71 cent. bid. National Insurance Company commanded \$76.50 per share; at the close we quote it at \$76, bid. We quote San Francisco Gas Company at \$140; Spring Valley Water Company at \$62; and State Telegraph at \$32.

At a meeting of the stockholders of the California Steam Navigation Company, held last Saturday, it was decided by an informal vote—no quorum being present—not to increase the stock of said company from \$2,500,000 to \$5,000,000. Unanimity prevailed in regard to re-issuing the shares at a \$100 instead of \$1,000 as at present. This will place the shares much more advantageously in the market, allowing persons of limited means to invest.

We note the formation and incorporation of the Builders' Insurance Company with a capital of \$50,000, divided into 500 shares of \$100 each. The business of this Company will be carried on in connection with the California Building and Loan Society. Thomas Mooney, Nathaniel Page, and others, are the incorporators. This makes the eleventh on the list of home insurance companies now in existence in this city.

The Mining Share Market has continued in a very inactive condition during the period under review. This flat and dormant state of the market has prevailed for a month or more past, and recent developments in the great Comstock lode have not, to any degree, added buoyancy to the market. Operations are steadily and vigorously prosecuted on nearly all claims now quoted in the Board, and an improve-

ment, it is hoped, will manifest itself before many weeks. Lack of accommodations in the money market may, to a great extent, be cited as a cause for restricted speculative transactions; and, as for permanent investment in this class of securities, the market may be said to be bare. The sales in the Board, with few exceptions, are now confined to shares of companies located on the Comstock vein.

The firmness with which Hale & Norcross is held is a sure indication of the usual steady yield of this mine. No sales have been made in the Board during the past month. We quote it at \$1,800, asked.

Savage opened at \$1,110@1,128, buyer 30, declined to \$1,105, and held yesterday at \$1,115. This mine has not been worked to its full capacity for some time past, partly on account of the scarcity of teams to remove the metal and the crowded state of the company's ore houses. Little ore has been extracted from the richest breasts. The 4th and 5th stations of this mine have improved materially during the week ending Sept. 22d, producing more and a better quality of ore. The yield from the south breast of the Curtis shaft is steadily increasing. In the north drift of the Curtis shaft ore of a medium quality, which is improving daily, was reached at a distance of 200 feet south from the south face of the sixth station. During the week ending Sept. 22d, 824 tons of ore were extracted, the estimate value of which is given at \$30,440. The estimated profits stated in our last issue were the result of only four days' work.

Crown Point remains quiet, changing hands at \$870@900, seller 3, and at the close is quoted at \$875. Good ore has been found in the 400 foot station—lower level—with fair prospects of an improvement in the quality by further developments. The estimated yield of bullion for the present month may be stated at about \$110,000. The receipts of bullion to the 25th, have been \$72,000. During the week ending Sept. 23d, 642 tons of second-class, and 5 tons first-class ore have been raised from the mine.

Gould & Curry shows a slight improvement, without any special inquiry; only a few feet were sold during the past week, opening at \$600, then selling at \$610, and closing at \$610, asked. The search after increased deposits of ore has not, up to this time, proved successful; otherwise the mine remains in good condition.

Yellow Jacket has been largely dealt in during the past week, opening at \$700, dropping to \$635, rallying to \$672.50, and closing yesterday at \$682. During the week ending Sept. 24th, some 6 tons of first-class, and 1,854 tons of second-class ore have been extracted from the mine, and the total yield of bullion for this period exceeded \$61,500.

Ophir receded from \$207.50 to \$197.50, seller 30, then sold at \$200, seller 10, and closed at \$207, asked.

Chollar-Potosi opened at \$115, advanced to \$121, seller 3, receded to \$107, then sold at \$110, seller 30, and closed yesterday at \$110. The work on the new shaft, in all the various stations, has been again resumed, and so far no important developments have been made. In drifting north on the 1st station, a narrow belt of quartz, some 18 inches wide, has been encountered. This is considered a favorable indication of obtaining ore as further progress is made. During the week ending Sept. 22d, some 627 tons of ore were shipped to Custom Mills.

Imperial improved a little during the week, opening at \$81@80, advancing to \$84, and selling yesterday at \$82. During the first three weeks of the present month, some \$40,000 in bullion have been received. The mines of this company, we are informed, are being well developed—some estimate the amount of ore in sight in the several stations to be sufficient to supply their present reduction capacity for eighteen months to come.

Belcher fluctuated between \$110@93, and closed at \$94. Empire Mill sold at \$80, buyer 30, during the week. Confidence changed hands at \$55, buyer 30. Bullion at \$16; and Overman within a range of \$20.50@16.25—assessment of \$15 on.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$413,430.50.

AFTERNOON SESSION.

60 shs Ophir at 200 per foot, s. 30.
 60 shs Ophir at 200 per foot, b. 30.
 3 shs Yellow Jacket at 695 per foot.
 1 shs Yellow Jacket at 690 per foot, b. 30.
 1 shs Yellow Jacket at 690 per foot, s. 30.
 2 shs Yellow Jacket at 695 per foot.
 1 shs Yellow Jacket at 695 per foot, b. 10.
 1 shs Yellow Jacket at 690 per ft. s. 3.
 1 shs Yellow Jacket at 670 per ft. h. 40.
 2 shs Yellow Jacket at 690 per foot.
 12 shs Chollar-Potosi at 107 per foot, s. 30.
 8 shs Chollar-Potosi at 107 per share.
 10 shs Overman at 17½ per share.
 20 shs Overman at 17 per share.
 10 shs Cal S. Nav. Co. at 72½ per cent, s. 3.
 5 shs Cal Steam Nav. Co. at 72½ per cent.

Amount of sales.....\$ 59,773 50

Thursday, September 27.

2 shs Gould & Curry at 610 per foot.
 10 shs Yellow Jacket at 637½ per foot.
 13 shs Yellow Jacket at 618½ per foot, s. 3.
 1 shs Yellow Jacket at 645 per foot, b. 3.
 2 shs Yellow Jacket at 642½ per foot, b. 30.
 7 shs Yellow Jacket at 643½ per ft. s. 30.
 4 shs Yellow Jacket at 650 per foot, b. 5.
 1 shs Savage at 1090 per foot.
 1 shs Savage at 1090 per foot, s. 10.
 24 shs Ophir at 190 per foot.
 12 shs Ophir at 197½ per foot, s. 30.
 12 shs Ophir at 200 per foot, b. 3.
 24 shs Ophir at 199 per foot, s. 3.
 4 shs Belcher at 91 per foot, s. 30.
 1 shs Belcher at 95 per foot, b. 30.
 25 shs Overman at 15½ per foot.
 10 shs Overman at 17½ per share, s. 30.
 12 shs Confidence at 52 per share.
 10 shs Confidence at 64 per share, b. 30.
 20 shs Sierra Nevada at 2½ per share.
 \$20,000 U. S. 7-30 Bonds, June at 75½.

AFTERNOON SESSION.

5 shs Chollar-Potosi at 107 per foot, s. 10.
 5 shs Chollar-Potosi at 108 per foot.
 25 shs Chollar-Potosi at 110 per foot.
 6 shs Chollar-Potosi at 110 per ft. s. 30.
 1 shs Yellow Jacket at 691 per foot, b. 30.
 1 shs Yellow Jacket at 682 per foot.
 12 shs Ophir at 200 per sh, s. 30.

12 shs Ophir at 200 per foot, s. 10.
 4 shs Crown Point at 900 per ft. s. 3.
 1 shs Belcher at 95 per foot, b. 30.
 1 shs Belcher at 93 per foot.
 1 shs Yellow Jacket at 645 per foot, s. 10.
 1 shs Yellow Jacket at 610½ per foot.
 2 shs Yellow Jacket at 650 per ft. s. 30.
 6 shs Yellow Jacket at 613½ per foot.
 1 shs Savage at 1095 per foot.
 10 shs Sierra Nevada at 2½ per share.
 20 shs Sierra Nevada at 2½ per share.
 5 shs Overman at 18 per share, b. 30.
 6 shs Overman at 18 per share.
 10 shs Overman at 17½ per share, s. 30.
 20 shs S. F. Gas Co. at 140 per cent.
 \$5,000 Legal Tender Notes at 71½.
 \$4,000 Legal Tender Notes at 71½ s. 5.
 Amount of sales.....\$ 56,964

Friday, September 28.

3 shs Yellow Jacket at 655 per foot, s. 10.
 3 shs Yellow Jacket at 615 per ft. s. 30.
 2 shs Yellow Jacket at 670 per foot, b. 30.
 1 shs Yellow Jacket at 655 per ft. s. 3.
 1 shs Yellow Jacket at 660 per ft. s. 5.
 2 shs Yellow Jacket at 662½ per ft. b. 5.
 16 shs Gould & Curry at 600 per foot.
 60 shs Ophir at 200 per foot, s. 30.
 12 shs Ophir at 200 per foot, s. 30.
 24 shs Ophir at 206½ per foot.
 1 shs Chollar-Potosi at 112 per foot.
 3 shs Chollar-Potosi at 110 per ft. s. 10.
 5 shs Belcher at 94 per share.
 10 shs Imperial at 82 per share.
 5 shs Confidence at 55 per share, s. 30.
 5 shs Confidence at 54 per share, s. 3.
 5 shs Bullion at 15 per share.
 5 shs Spring Valley W. W. Co. at 61 per cent.
 3 shs Spring Valley W. W. Co. at 61 per cent.
 \$36,000 U. S. 7-30, Aug. issue, at 75c.

AFTERNOON SESSION.

1 shs Yellow Jacket at 665 per foot.
 5 shs Yellow Jacket at 637½ per foot, b. 30.
 5 shs Yellow Jacket at 690 per foot, b. 30.
 2 shs Yellow Jacket at 690 per ft. b. 30.
 2 shs Yellow Jacket at 691 per foot, b. 30.
 2 shs Yellow Jacket at 672½ per foot.
 1 shs Yellow Jacket at 675 per foot.
 1 shs Yellow Jacket at 675 per foot.
 2 shs Yellow Jacket at 690 per foot, s. 30.
 2 shs Yellow Jacket at 691 per foot, s. 30.
 2 shs Yellow Jacket at 692½ per foot, b. 3.
 1 shs Yellow Jacket at 692½ per foot, s. 30.
 1 shs Yellow Jacket at 691 per foot, b. 30.
 1 shs Yellow Jacket at 682 per foot.
 5 shs Dancy at 4 per foot.
 15 shs Dancy at 4 per foot.
 Amount of sales.....\$ 41,163 00

A Hint to Advertisers in General, and San Franciscans in Particular.

The following article from the *Mountain Messenger*, published in Downsville, the county seat of thirty Sierra, illustrates an important fact which some people are prone to overlook, viz: that it is not the lowest priced advertising which is the cheapest. For instance, an advertisement inserted for \$30 in a journal issuing 3,000 copies, is twice as cheap as at \$20 in a paper having only 1,000 circulation:

Judicious Advertising.

It is passing strange how few business men in the cities of this State understand advertising judiciously in the country press, whether making their arrangements with the publishers or their agents in San Francisco. There are five different agencies which receive advertising for the country papers of the interior, only two or three of which are able to secure an agency for first-class papers, such as have an extensive circulation and established rates of advertising, from which they decline to vary at the option of the advertiser. These papers are usually full of advertising at fair rates, only a trifle in advance of papers having a very limited circulation. The other agents and publishers have no established prices, and consequently overcharge if they have an opportunity, but generally take advertising at about twenty per cent. less than usual rates; and the foolish advertiser who gets his advertisements into a score or two of these journals doubtless thinks he is advertising judiciously and cheaply, when in fact he is paying the very dearest price, considering the limited circulation his advertisement obtains. Thus, many business men, though they doubtless find it pays to advertise, even in this class of papers at this low rate, are advertising injudiciously and paying double rates for the circulation they desire to and might obtain by advertising in first class papers, the rates of which are but a trifle higher than those which advertise for such prices as they can obtain. These low price advertising agents work an injury to both publishers and advertisers, and are rarely able to liquidate when the quarterly settlement is due, and their names are bandied about through the press with epithets of well merited contempt.

While the penny-wise style of business referred to pays one class of advertisers very well, it works injury to others who fail to obtain the value of their money. There is hardly any kind of trade extensively carried on in San Francisco that will not pay to advertise throughout the State, to the mutual benefit of the advertiser and publisher; but a want of general information concerning the amount of trade to be expected has established a want of confidence to try. Advertising in the East is more general because statistics of trade and its profits prove its value, almost without trial. The inducements to advertise in this State are no less, as we propose to show by reference to the consumption of goods in this country.

From the Auditor's office we learn that there are no less than two hundred licensed retail dealers in Sierra county, whose annual sales in the aggregate foot up the handsome sum of \$3,500,000, and it is to be presumed that some of these dealers have overstated their sales. To this amount may be added \$1,500,000 worth of goods purchased on private account for miners' winter stores, and for the supply of incorporated companies and quartz mills, making in total a valuable trade of about \$5,000,000 annually.

The wealth and population of a section, and the influence and circulation of an old established paper, determine its value as an advertising medium—a matter never lost sight of by an experienced advertiser.

The *Messenger* is one of the oldest and best established papers in the State, and has always enjoyed an extensive circulation (wholly unaided by party contributions) equalled by no other in this locality at any time during the last ten years, and has entered upon its thirteenth volume with increased subscriptions and extended advertising patronage. It has been twice enlarged since its removal from La Porte to Downsville, in 1864, and now presents more reading space and type than any other weekly local journal in the State (not connected with a daily issue), and more local matter. No business man is without it, and its circulation extends throughout the mines in all the different camps of this county and vicinity, as follows: Forest City, Alameda, Chiles, Flat, Minnesota, American Hill, Sierra Valley, Downsville, Goodyear's Bar, Cliftonville, Eureka, Port Wine, La Porte, Sawpit Flat, Gibsonville, Newark, Plover Flat, Howland Flat, Pine Grove, and St. Louis, besides many other smaller camps.

The *Messenger* has an extensive job office, and does the printing and advertising of the county.

REMINGTON'S ARMORY.

Agency, 310 Washington St., San Francisco.

PRICES REDUCED!



These arms have been preferred by the United States Government, and stand unequalled by any in the world. Revolvers, Army, Navy, Belt and Pocket, Double and Single Action. Repeating, and vest-pocket Pistols, with copper ammunition; Police Revolvers, a new model, navy size, 4 1/2 to 6 inch barrel; Rifle Guns—an entirely new model, having a range and accuracy equal to a rifle, and a most perfect Ounce. All the new models for sale very low.

ALBERT E. CRANE.

Just Published.

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS OF THE NERVOUS SYSTEM AND REPRODUCTIVE ORGANS, to be had by addressing and inclosing twenty-five cents, postage stamps, to Secretary PACIFIC MUSEUM OF ANATOMY, Montgomery street, San Francisco. 12v13iv

CHANGING THE ADDRESS.—No charge is made for changing the address of this paper. To give all necessary information, write as plainly as follows: "Change address of the Mining and Scientific Press from Mr. ... at ... P. O., ... County, ... State, to Mr. ... at ... P. O., ... County, ... State, ... 156-27" I am

MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals).

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent sale; and Amount and Time of Payment of Dividends.

NAME	AMT OF ASSESSMENT	DAY	DELINQUENT	DAY
Assurance M. Co. Cal. \$1	Sept 25-Oct 12			
Arbitron M. Co. Mex. \$1	Oct 5-Oct 26			
Antioch P. Petrol. Co. Contra Costa Co. \$2	Sept 21-Oct 10			
Consolidated S. H. M. Co. \$1	Oct 1-Oct 21			
Chilpanoma M. Co. \$2.50	Sept 24-Oct 15			
Calafia A. & S. M. Co. Cal. \$1	Sept 14-Oct 8			
Crown Point, dividend, \$5000	Payable June 15			
Confidence S. M. Co. Storey Co. Nev. div. 10 p. c.	Pay July 9			
Cole S. M. Co. Storey Co. Nev. \$1	Sept 13-Oct 3			
Cosala S. M. Co. Mex.	Annual Meeting Oct 2			
Chilpanoma M. Co.	Annual Meeting Oct 6			
Chaparral Hill O. & S. M. Co.	Meeting Oct 6			
Diana G. & S. M. Co. Nev. \$5	Oct 5-Nov 2			
Diamond C. M. Co. Del Norte Co. \$1	Sept 15-Oct 2			
Dunbar O. & S. M. Co. Nev. \$5	Sept 15-Oct 1			
Exchange M. Co. Storey Co. Nev. \$1	Sept 2-Oct 10			
El Tiste S. M. Co. Sra. Mex. \$1	Sept 2-Oct 18			
Enterprise G. & S. M. Co.	Meeting Oct 17			
Enterprise G. & S. M. Co. Meadow Lake, \$1.25	Sept 25-Oct 13			
Eureka, San Juan, dividend \$1.50 per sh.	Pay July 1—Sept 1			
Geo. Washington G. & S. M. Co. Alp. Co. \$2.50	Oct 20-Nov 5			
Great Central M. Co.	Annual Meeting Oct 8			
Gould & Curry, dividend \$8000	Payable June 8			
Humboldt G. & S. M. Co. Nev. \$2	Nov 1-Nov 27			
Hausen C. M. Co. Del Norte Co. \$50	Oct 18-Nov 5			
Hale & Norcross, dividend	Payable Sept 15			
Imperial G. & S. M. Co. dividend \$6 sh.	Payable Sept 15			
Independent C. M. Co. Dividend	Payable Sept 1			
Jefferson G. & S. M. Co. Yuba Co. Div. \$10 sh.	Payable Aug 23			
Keystone M. Co. Calaveras Co. \$5	Oct 22-Nov 10			
Lady Bell C. M. Co. Del Norte Co. 10c.	Sept 11-Oct 25			
Lady Bryan M. Co. \$1	Oct 25-Oct 1			
La Victoria G. M. Co. \$1	Oct 9-Oct 31			
Ledy Bryan M. Co.	Meeting Oct 3			
Liberty G. & S. M. Co. Mex. \$5	Oct 27-Nov 12			
Mina Rica de las Flores M. & M. Co. Cal. \$1	Oct 2-Oct 25			
Melones and Stanislaus G. & S. Co. \$2	Oct 6-Oct 25			
Mammoth G. & S. M. Co. Kern Co. \$500	Oct 4-Oct 20			
Nuestra Sra de Guadalupe S. M. Co. \$1	Oct 1-Oct 31			
Old Colony S. M. Co. Nevada, \$5	Sept 7-Oct 5			
Overman S. M. Co. \$15	Sept 25-Oct 10			
Patrolina and Delores S. M. Co. \$1.25	Sept 22-Oct 8			
Rattlesnake G. & S. M. Co. Yuba Co. \$1	Sept 12-Oct 3			
San Marcel S. M. Co. Mex. \$1	Oct 10-Nov 21			
Santa Cruz Petrol. Oil Works Co.	Annual Meeting Oct 20			
Seagrated Belcher M. Co. Nev. \$1	Sept 19-Oct 3			
Santiago M. Co. dividend	Payable Sept 25			
Tecumseh O. S. & C. M. Co. Cal. 50c.	Sept 17-Oct 8			
Union Nuttle Oil Co., Humboldt Co. \$15	Sept 24-Oct 15			
White & Murphy G. & S. M. Co. \$1	Oct 11-Nov 1			
Yellow Jacket S. M. Co. div. \$50 sh.	Payable Sept 15			

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, September 23, 1866.		
	Bid.	Asked.
United States 7 3/10ths	\$ 76 1/2	\$ 77
Gov. Legal Tender Notes	71	71 1/2
State Bonds, 7 1/2 cent	81 1/2	83
San Francisco 10 cent	100	105
San Francisco Bonds, 1855, 6 cent	100	105
San Francisco Bonds, 1855, 8 cent	63	71
San Francisco Bonds, 1855, 8 cent	63	71
Sacramento City Bonds, 10 cent	19	21
Sacramento County Bonds, 6 cent	61	65
Marysville Bonds, 10 cent	75	82
Stockton Bonds, 10 cent	85	95
Yuba County Bonds, 10 cent	80	85
Butte County Bonds, 10 cent	70	80
California Navigation Co.	71	74
State Telegraph Stock	32	35
Sacramento Gas Co.	...	75
Spring Valley Water Co.	61	63

RAILROADS.

Sacramento Valley Railroad	...	...
Omnibus Railroad	54 1/2	56
Central Railroad Co.	...	65
North Beach and Mission	45	46

MINING STOCKS.

Alpha	\$ 55	\$ 100
Bullimore American	...	...
Bullion, G. H.	10	16
Beicher	94	100
Confidence	50	55
Ophir	203	207
Gould & Curry	540	610
Empire M. & M. Co.	105	...
Savage	105	...
Chollar-Potosi	110	112 1/2
Hale & Norcross	1075	1800
White & Murphy	...	...
Sierra Nevada	3 1/2	3 1/2
Yellow Jacket	632	685
Overman	2	4
Crown Point	875	900
Imperial	82	84

San Francisco Market Rates.

WHOLESALE PRICES.

FRIDAY, Sept. 23, 1866.		
Flour, extra, 3 bbl.	5 00	5 50
do Superfine	4 50	5 00
Corn Meal, 3 100 lb.	1 30	1 55
Wheat, 3 100 lb.	1 30	1 55
Oats, 3 100 lb.	1 40	1 50
Barley, 3 100 lb.	50	1 00
Beans, 3 100 lb.	3 50	5 50
Potatoes, 3 100 lb.	50	65
Hay, ton	7 00	13 50
Love Oak Wood, 3 100 lb.	5 00	10 00
Beef, on foot, 3 100 lb.	8	9
Beef, extra, dressed, 3 100 lb.	10	12 1/2
Sheep, on foot, 3 100 lb.	4 00	5 00
Hogs, on foot, 3 100 lb.	8	9
Hogs, dressed, 3 100 lb.	12 1/2	13

GROCERIES, ETC.

Sugar, crushed, 3 100 lb.	12 1/2	13
do China	10	11
Coffee, Costa Rica, 3 100 lb.	24	25
do Rio	23	23 1/2
Tea, Japan	70	1 25
do Green	70	1 25
Hawaiian Rice, 3 100 lb.	9	...
China do.	6 1/2	7 1/2
Coal Oil, 3 gal.	68	70
Candles, 3 100 lb.	16	22 1/2
Ranch Butter, 3 100 lb.	35	52 1/2
Islands do.	30	37 1/2
Cheese, California, 3 100 lb.	10	11
Eggs, doz.	...	50
Lard, 3 100 lb.	19	20
Lard and Bacon, 3 100 lb.	20	21
Shoulders	12 1/2	15

THE PRESS is a large, sixteen page paper, and is truly a valuable assistant to the mining interests of the Pacific Coast.—[Nye County News.

Retail Prices.

Butter, California fresh 3 lb.	45c	60
do packed 3 lb.	38c	50
do Oregon 3 lb.	35c	—
do New York 3 lb.	40c	50
Cheese, 3 lb.	15c	20
Honey, 3 lb.	30c	40
Peanut, 3 lb.	60c	60
Lard, 3 lb.	22 1/2	25
Rams and Bacon, 3 lb.	22 1/2	25
Cranberries, 3 gal.	75c	1 00
Potatoes, old, 3 lb.	—	—
do New 3 lb.	16c	1 1/2
Tomatoes, 3 lb.	6c	—
Onions, 3 lb.	3c	6
Apples, No. 1, 3 lb.	3c	6
Pears, table 3 lb.	8c	10
Plums, dried, 3 lb.	20c	22
Peaches, dried, 3 lb.	15c	—
Oranges, 3 doz.	60c	—
Lemons, 3 doz.	75c	—
Cucumbers, aqueo.	87c	1 12
Soap—Palm & C. O.	8c	10
Castile	—	15

FIRST PREMIUMS!



FOR PRINTING,

AWARDED AT THE

MECHANICS' INDUSTRIAL EXHIBITION

SAN FRANCISCO, 1865,

—AND AT THE—

State Fair at Sacramento, 1865,

—TO—

DEWEY & CO.,

BOOK AND JOB PRINTERS,

PUBLISHERS OF THE

MINING AND SCIENTIFIC PRESS,

505 Clay street, San Francisco.

RATES OF ADVERTISING.

—IN THE—

Mining and Scientific Press.

Mining Advertisements.	1/2 paid in Advance
Notices of Meetings, per square, three weeks	\$3 50
Notices of Meetings, per square, four weeks	4 00
Assessment Notices, of ordinary length, four weeks	7 00
Assessment Notices, of more than usual length, four weeks, for each additional square	4 00
Delinquent Sales, per square, two weeks	2 50
Delinquent Sales, per square, three weeks	3 50
Postponements, per square, one week	1 50
Slips of Advertisements printed, for meetings or assessments, per hundred	1 00
Advertising half blanks, circulars, and advice	Free
*The space of ten lines of single quote advertising type constitutes a square.	
Miscellaneous Advertisements.	
One week, per square	\$1 50
One month, per square	3 00
One quarter (3 months), per square	7 50
Advertisements of great length, or of special character, inserted by contract on the most favorable terms.	
Terms of Subscription.	
One copy, one year, by mail, in advance	\$5 00
One copy, six months, by mail, in advance	3 00
One copy, one year, by express	6 50
One copy, six months, by express	3 50
Five copies, one year, by mail, in advance	20 00
By city carriers, per month	...
Single copies	15
Monthly Series (or parts)	65

THE CIRCULATION OF THE PRESS, already extensive, is rapidly increasing, and substantial traders among the most intelligent, influential and industrious classes of the Pacific States and Territories will find no more effective or economical medium for advertising.

DEWEY & CO., Proprietors.
Patent Agency and Job Printing Office, 505 Clay street, San Francisco. (Jan 1st) July 1, 1866.

Mining and Scientific Press
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Mining and Scientific Press
Published Saturdays, containing 16 pages, at \$5 per year.

Endorsement by the Miners' State Convention

The following resolution was adopted by the California Miners' State Convention, held at Sacramento, Jan. 17th, 1866:

Resolved, That we regard a mining paper or journal of great importance to the mining interest of California, and we recommend the MINING AND SCIENTIFIC PRESS, of San Francisco, to the consideration and support of the miners of the Pacific coast.

RUGGLES' PRINTING PRESS.

For Sale or Exchange.

The Proprietors of the MINING AND SCIENTIFIC PRESS have on hand a Half-Medium Ruggles Engine Job Press, in condition good as new; which will be sold cheap, or exchanged for a good Hand-Press of medium or large size.

DEWEY & CO., Job Printers,

Office, 505 Clay street.

OUR NEW YORK AGENCY.

Mr. GEO. M. NEWKIRK is our authorized agent in New York City, and will receive advertisements and subscriptions for the MINING AND SCIENTIFIC PRESS at regular rates. Sample copies of our weekly and monthly issues can be procured by calling upon him, at the office of the "STOCKHOLDER," No. 75 William street.

Subscribe Now!

1866 JANUARY 1st, 1866

Commencement of Twelfth Volume

—OF THE—

Mining and Scientific Press

Published Every Saturday.

The title of our journal is a truthful expression of its character.

It affords a class of progressive information to the Miners, Mechanics and Professional Men of the Pacific Coast, which cannot be derived from books, or other publications.

Each Volume comprises, in reality, a book of new intelligence and facts relating to Mining, Mechanism, Metallurgy, Science and Art, developed by our rich and peculiar resources, and identical with our own industry and history.

By the encouragement of intelligent economy in LABOR AND GOLD-SAVING, we shall make the PRESS a source of INDIVIDUAL PROFIT to its patrons, as well as a public benefit to every local community in which it circulates.

The prospects of our journal are now brighter than at any former period. Our facilities for furnishing a valuable paper are constantly increasing.

Following are some of the many opinions generously expressed by our neighbors:

Editorial Expressions:

VOLUME TWELFTH.—THE MINING AND SCIENTIFIC PRESS with its last issue, commenced its twelfth volume. Since Dewey & Co. have held the reins, its life has been rapid toward a perfect journal. Its appearance evidences its prosperity, but doubtless, like some of the rest of us, it can stand increased encouragement. Let such be given, and, our word for it, volume thirteen will acknowledge receipt.—[Golden Era.

MINING AND SCIENTIFIC PRESS.—We received a visit a few days since, from Mr. W. Wood, agent for the Mining and Scientific Press, who is now canvassing this country for subscribers to that valuable journal. The Press is valuable to miners and mechanics, being the only journal of any importance on the coast entirely devoted to their interests.—[Mountain Messenger.

We can give our testimony that it is always replete with useful and valuable information to miners and mechanics. [Placer Herald.

The publishers intend to make it the "Scientific American" of the Pacific Coast. Every miner should have a copy of it in his cabin, for it will be filled with useful information to the pick and shovel fraternity.—[Tribune Journal.

It contains correspondence from different sections, giving accounts of new discoveries in gold, silver and copper, and should be taken by every person that wishes to keep well posted on the developments of our State and the Territories.—[Mountain Messenger.

With the last number is an index to the whole volume, most useful and valuable to those who keep files of that paper.—[Shasta Courier.

Prof. J. D. Whitney's address on Mining, is given entire. * * * We preserve the Press, and would like to have a full file.—[Napa Reporter.

THE MINING PRESS is particularly the miners' journal, and is doing more for the solid interests of the State than any other, by enabling its readers to unlock the mines of untold wealth which lie waste around them.—[Mountain Messenger.

The public should support the enterprise of the MINING PRESS, one of the best papers in the State, by a liberal patronage, as it is only by a system of legitimate reports that our mines can be favorably brought before men of capital below.—[Calaveras Chronicle.

Under the management of Messrs. Dewey & Co., the Press has been much improved in every respect. * * * It deserves a liberal support.—[Virginia Union.

A good paper for this country.—[Humboldt Register Na.

Those who would have a good paper of this character should subscribe now.—[Marysville Appeal.

Mining Summary.

CALIFORNIA.

Alpine County—

From the *Miner* of Sept. 22d, we clip the following: In the Schenectady, the week has been principally occupied in clearing out the old tunnel and getting ready for operations in the face. Six men are at work.... In the American, the vein of gray and black ore is from ten to twelve feet in thickness. Assays of the ore vary from \$56 to \$128 per ton.... It is believed that work will soon be commenced on the I. X. L. claim.... Most of the machinery for the mill at Davidson's has arrived.... Some time since a claim was located on a ledge lying four or five hundred feet east of the Buckeye No. 2 and called the Accacia. Mr. O. F. Thornton, in examining this lode, recently found some very fine specimens of quartz, bearing ruby silver and nitargyrite in large quantities, one sample assaying over one hundred dollars per ton.

In Silver Mountain district, the contractors on the Kohinoor yesterday struck a stream of water and are apparently in close proximity to the ledge.... The Washington company are pushing ahead on their ledge and taking out some very fine ore.... Work has been resumed on the Balaklava.... The Mountain, Pennsylvania, Buckeye No. 2, X-10-U-8, Maine and Olive Branch are all working.

The New York purchasers of the James Barrett company's lodes will soon open them.

The Silver Mountain *Bulletin* of same date says: The Maine company cut their ledge last week, but the point intersected being immediately under the bed of a ravine it was somewhat broken up. We learn that they will commence drifting south in a few days.... Two shifts are being worked in the George Washington claim, taking out pay rock. The ledge is increasing in thickness, and the ore in quality as they penetrate the mountain. The lower level is at a depth from the surface of about two hundred feet.

Amador County—

The *Ledger* of the 22d inst., has the following: The owners of the William mine, near Sutter Creek have, at last, been rewarded for their perseverance—they have found a lode that pays ten to twelve dollars a ton.... Billy Smith & Co., on the first north extension of the Union mine, are now down sixty-five feet, have a large vein, and a recent crushing paid eight dollars.... The My Mary Ann Co., at Pine grove, cleaned up a run of forty odd tons, the other day, that paid nearly sixteen dollars to the ton.... The Union, near the same place, have again resumed operations, and will sink their shaft fifty feet deeper.... The Paugh lode is looking fine. The shaft is now down below a permanent water level—ninety-five feet—and the ore looks better than ever. The mill will be ready for work the coming week.... The Independent is the name of a new mine between the Paugh and Clinton. The main shaft is down about eighty-five feet, and some of the rock appears well.... The Anaconda, Golden Eagle, Italian, and others, are all in a prospering condition, yielding an abundance of free ores.... The Railroad, at Sutter, has fulfilled all our predictions. Shares are now worth only ten thousand dollars. Extensive steam hoisting works are under way.

Eagon & Co., of Fiddletown, have commenced work on the old Slaughter House Gulch lode, long since abandoned by the original owners, and are taking out exceedingly rich quartz. They are now hauling rock to the Richmond mill for the purpose of having it crushed.... In the Newton mine, last week, at the depth of two hundred and fifty-five feet, in the lower tunnel, they struck a vein of exceedingly rich ore, six feet wide. The owners, C. T. Meader & Co., have erected steam-hoisting works on the mine, and are taking out large quantities of ore which is shipped to San Francisco. Quite a town is growing up in the vicinity of the mine.

Butte County—

The *Record* of Sept. 22d, has the following items: The wing dam of J. Clark & Co., on Feather river, near White Rock, is proving very rich, yielding as high as 25 and 30 ounces of dust per day.... We understand that a ledge yielding some excellent surface quartz, has been found near the Buffalo ranch, in Wyandotte township.

The *Appeal* of 25th, says: Mr. Kneeland, Superintendent of the quartz mill on the Sherman ledge, near Oroville, exhibited to me on Saturday several very rich specimens of quartz rock.

Humboldt County—

The *Times*' correspondent of September 15th says: Mr. John V. Hunter has returned from San Francisco with orders to resume operations at the Davis well, and is now engaged in erecting more substantial machinery for that purpose. Work will doubtless be continued here as long as they have any indications whatever of oil.... Mr. Wentworth has purchased the machinery of the Jeffrey company.

He will now commence operations in another locality.... Work will be suspended at the Fenner Farm well after to-day, for a short time, in order to get machinery. It has attained the depth of 300 feet—indications excellent.

A meeting was called of all citizens interested in the Humboldt oil matters, the object of which was to consolidate interests, and organize for a thorough test for oil.

Kern County—

The *Havilah Courier* of 22d says: The Pioneer mill, which has been idle for the last two weeks, commenced crushing rock on Monday last. Messrs. Taylor & Erskin now have an interest in the mill. They crush rock from the Uncle Abe ledge, and will shortly operate on that from the Boomerang.

Mr. John F. Tulley and friend struck a very rich vein of quartz, not long since, in the new Washington district, on Kern river. They have already taken out a dozen tons of what is pronounced "hundred dollar rock," which will speedily be run through an arrastra.

Los Angeles County—

The *News* of September 21st has the following: Accounts from San Fernando and vicinity continue to be of the most flattering character, as regards both yield and quality of oil. The Pico Springs, under the superintendence of Mr. S. Lyon, are giving the most satisfactory results. Mr. M. F. Hughes, of the San Fernando Petroleum company, has bored to the depth of about 200 feet, and is obtaining a constant increase of fine oil. The Moore Springs are also progressing finely. The Wiley and Tousey works are fairly overflowing, on account of the lack of barrels and capacity of means to contain their yield. * * * Mr. R. G. Surdam, at Wheeler's camp, near San Bucna; Ventura, writes that the Philadelphia company are employing over twenty men, and want more hands. The works are now producing forty barrels daily.

Nevada County—

The Grass Valley *National* has these items: The Ophir company are now working in their third level, which strikes the old shaft at a depth of 570 feet, struck their ledge the other day in the level and found it to be two feet thick. Several candle boxes of very rich specimens were taken out, and, in fact, all the rock at this point shows well.... The Inkermann ledge is producing at present some very pretty rock, which yields by crushing \$20 per ton. The ledge is now being worked at a depth of only fifty feet from the surface, and is visible the whole length of the tunnel, which is now in some 375 feet. The ledge varies from six inches to two and a half feet in width, and rock taken from any portion of it shows more or less free gold.... Some fine specimens were recently taken from the Old Collins claim, near Boston Ravine.

The *Gazette* has this item: The engine and hoisting works formerly used by Bever, at Willow Valley, have been taken down and are to be erected on the old Cunningham ledge, above the Wigham. A portion of the machinery is already on the ground, and will be put up immediately.

EXCELSIOR.—From the *Star* we gather the following: the following are the correct figures of the clean-up of the Mohawk rock recently crushed at Winton's mill: Forty-eight tons of rock gave a yield in free gold of \$1,633.02—which is \$34.40 per ton. To this the sum of \$600—the product of the sulphurets—must be added, making a gross result of \$2,233.02, in forty-eight tons of ore. This company, at their quarterly meeting, resolved to build a mill, and will commence its erection immediately.... We were shown some very fine specimens of white quartz, a few days since, from the Lake company's ledge, southwest of the Excelsior.... Four days' run of the U. S. Grant company's mill, which, by the way, is a small 5-stamp affair, yielded 114 ounces of amalgam from the copper plates. The mill is now running day and night.... The Eclipse company are about to have fifty tons of their ore reduced at the Winton mill.... The Mayflower company have sunk a shaft 200 feet, and are getting out very fine sulphuret ore.... The Aurora company, Wagner ledge, are about to have ten tons of their ore crushed at Nevada.... We were shown on Saturday a small button weighing about \$4.50, obtained from 240 pounds of croppings of the Alhambra company's claim.... We are informed that Messrs. Parsons & Co. contemplate erecting a mill about one and a half miles southwest of town. They think they can have it in running order by the first of November.

The *Gazette* of 22d September says: We had a conversation yesterday with O. Crandall, one of the owners of the Enterprise mine, near Meadow Lake. He informs us that they are now taking out and reducing a considerable quantity of ore, which yields an average of about thirty dollars a ton in free gold, besides the amount contained in the sulphurets, which are saved to be worked by the chlorinating process. The mill is now working satisfactorily, although they have not yet pans enough to amalgamate as much rock as they can crush. They have not yet ascertained the size of the mine, having found but one wall; but they are now working with the view of taking out ore, rather than of exploring the mine.

Placer County—

The *Herald* of 22d instant has the following: Yesterday we were shown a ball of amalgam, weigh-

ing between ten and eleven ounces, the product of free gold from ten tons of quartz from the Wells' lead, which was crushed at Wely's mill. The amalgam being worth \$17 per ounce, made this crushing average \$17.50 per ton. From this lot of quartz 800 pounds of sulphurets were concentrated, which are yet to be worked.... A friend writing us from Yankee Jim's, says several cement mills are being erected in that section. Mr. Ambruster is now building one on Georgia Hill. The claims on this hill years ago were famous for their richness. The mill on the Missouri claim, in the same vicinity, is said to be making money.

We clip these items from the *Stars and Stripes* of Sept. 26th: The Suffrage Company found richer rock at twenty feet than at the surface, and have contracted for sinking the shaft another twenty feet.... The Civil Rights Company, near Newcastle, are still progressing with their shaft, and taking out excellent rock.... Captain Mallett is pushing work with energy, and every day more fully develops its richness.... Messrs. Blankman and Wahlgreen, we are informed, have made another rich strike in the Friday lead, near Ophir, taking out rock which literally sparkles with free gold.

Same paper says: There is much activity in mining and prospecting in this section. Many new leads have been discovered, and old ones are being worked with unusual energy. The evidences daily multiply that the quartz mines in this section of Placer county are as rich as these in any other part of the State. Capitalists begin to learn this truth, and there have been some considerable investments made in our mines by parties from San Francisco and Sacramento, within a few weeks. We predict that within a year from this time the Placer county quartz mines will attract as much attention as these of any other county in the State.

Plumas County—

The *National* of the 15th, says: We learn that the Bull-Frog Company, near Rush creek, have recently struck their ledge by a new tunnel at a depth of 190 feet, and discovered excellent pay.... Mr. C. Cahalan, who has been prospecting for several years upon a ledge near the Crescent Mills, in Indian Valley, has struck a very rich vein of quartz.

The *Quincy Union* of 22d inst., says: We learn that Messrs. Peel & Co's claims near Grizzly Creek, are paying an ounce per day to the hand. They have just put up over 2,000 feet of iron pipe, to conduct the water to their claims, at the expense of over \$3,000.

Correspondent of the *Appeal* of 26th, writing from Nelson Point, says: River mining thus far has not proved very remunerative. They have worked out one set of claims, and are now shifting their water-derrick, wheels, etc., to another. White & Fell, are putting in a wing-dam two miles below the "Point," where they expect to find new ground. Richards & White are not down yet; they have in three wheels and four pumps, which is thought by some to be sufficient, but by others not. Jimmie, on Nelson Creek, has done as well, if not better than any of them. The Chinese claims are all well under way, and from the two and three ounce pieces that we get to see occasionally, judge that they are doing pretty well. Messrs. Jackson, Jelly and Mitchell have completed their preparations for another run in their hydraulic claims. Quartz mining has commenced in Mohawk Valley. Fred. King & Co., of the Sulphur Spring Ranch, have put up a small mill. They commenced with four stamps, and made a run of ten days, which, from cleaning the apron alone, paid \$500.

Shasta County—

The *Courier* of 22d inst., has the following items: At Lower Springs, Mr. George recently reworked some of the tailings run through Peart's mill last winter and found that they paid at the rate of ten dollars per ton. He has also just finished crushing three tons of rock taken from a ledge which has once been pronounced worthless, and the clean up shows a result of eighteen dollars to the ton.

.... Long's old quartz mill, which has been standing idle near Middletown for several years, has been purchased by Kelly & Co., and will be removed to the Jollie claims, near Muletown.... We understand that the Dog Creek mines are paying unusually well this season, and that it is a common thing for miners to find good sized nuggets in their sluices, some of which weigh from forty to ninety dollars.... New and rich placer diggings have recently been discovered on Hall's Gulch, which lies in Trinity county, and just over the Dog Creek divide. Quite a number of miners have gone there from Portuguese Flat and Hazel Creek, in this county.... Mr. McCall recently shipped forty-seven hundred pounds of picked rock from the Chicago ledge to San Francisco, where he disposed of it for about \$500. Since this shipment parties at the Bay are anxious to purchase the Chicago, but have not yet offered a sum sufficient to induce the present owners to sell.

Sierra County—

The following items are from the *Messenger* of the 22d inst.: The Madison quartz ledge, situated between China Flat and Jim Crow Canon, some three or four miles above town, has been sold to New York and Chicago parties, Joseph Voshay, principal, for the sum of \$5,000.... We learn that parties up the South Fork some eight miles have struck excellent

prospects in a tunnel they are running into the hill for gravel diggings.

The correspondent of the *Messenger* gives an account of a rich mine in Sierra, now lying idle, from which we condense: The Primrose mine was located in 1858. It was for a time worked successfully. Some \$240,000 was taken from it in the course of three years. In 1861, the southerly extension was purchased for \$30,000, borrowed at a ruinous rate of interest. The mill was enlarged, and injudiciously removed. Creditors became pressing, and the property was sold under the hammer. Much of the rock is rich. The writer observed several men selecting pieces and working them with a small hand mortar. They realized \$5 or \$6 per day to the man. The placer ground in the neighborhood will yield, where water can be had, about an ounce of gold to the hand.

Siskiyou County—

The *Yreka Union* of the 22d says: Fort Jones is improving rapidly. The place has both agricultural and mining advantages. The best quartz leads in the country are situated only a few miles from town, and some of them are being profitably worked, and only need machinery and capital to develop the vast wealth which they undoubtedly contain. Where gold can be seen in quartz, and good wages can be made by pounding it up in a mortar, we do not understand why they do not resort to some more extensive mode of obtaining the gold.

Yuba County—

The *Nevada Gazette* says of the Blue Gravel mines: These mines are situated at the foot of the ridge which extends nearly the whole length of Nevada county, starting near the head of Greenhorn, forming the divide between that stream and Deer Creek, and running to the right of Grass Valley and by Rough and Ready. The ridge is cut in two at Quaker Hill, and a rifle appears to have been formed by some cause at Smartville, near where the ancient stream debouched into the valley, which accounts for the immense deposit of blue gravel at that place. The Alta shaft, near the Rough and Ready road, from which an immense quantity of gold has been taken, and we believe is still being worked, is situated on this ancient channel; and there is every reason to believe that the channel for a distance of forty or fifty miles is rich in gold, and will eventually be worked.

The *Appeal* says: The two boilers, smoke-stack and breeching, lately arrived from below for the Pennsylvania Mining Company, were shipped yesterday (all but one boiler weighing 3,500 pounds) to Brown's Valley.

The owners of the Blue Lead Gravel Claim, at Smith's Flat, cleaned up last week \$1,700, after a run of about three weeks, working eight hands.

NEVADA.

Washoe—

The yield of ore from the Yellow Jacket mine, for the month of August, was nearly a thousand tons, which yielded, under the stamps, the sum of \$379,699.92, averaging about \$38 to the ton. This mine is now in fine condition.... The Crown Point mine, at Gold Hill, yields at the rate of a hundred tons of ore per day.

Reese River—

From the *Reveille* we clip the following items: The Cortez, Giant ledge, belongs to the Mount Tenabo Company, which is the present style of the original Cortez Co. Two days ago, a lot of crude bullion was brought in from this lode. We saw this morning at the assay office four bars of silver, obtained from this bullion, which were of the following weight, fineness, and value: No. 1, 943 ounces, 910 fine, \$1,025.53; No. 2, 916 ounces, 916 fine, \$1,084.61; No. 3, 903 ounces, 893 fine, \$1,043.46; No. 5, 492 ounces, 824 fine, \$524.87. We learn that the ore was worked up to thirteen per cent. of the pulp assay.... The new mill of the New England and Nevada companies, located at Kingston, will commence operations with ten stamps next week. The mill is supplied with four furnaces. The first work will be done for the Silver Mining Company, which will furnish ore from its Mother Ledge, in the Santa Fe District, about five miles from the mill.... The Diana mine is again yielding bullion, after a long interval of quiet. A bar of bullion, valued at \$1,010, was obtained from five tons of ore reduced at the Keystone mill.... A pack-train left Austin on the 18th, to bring in a load of the rich ore from Danville district, which is to be thoroughly tested by mill process.... It is probable that a mill will be put up this fall in Hot Creek district. The value of the mining prospects in that district has been increased by the discovery of a large tract of fine timber.... In the Danville district eight or ten men were prospecting with fine success.... The fame of the riches of the Reveille district was attracting the attention of prospectors.... We were shown to-day (19th) a large pill box full of specimens of horn and native silver from the Twin Ophirs of the La Plata Company, in the North Twin River district.... On the 19th a bar of bullion, weighing 3,000 ounces, was reported from the Diana.... The Old Dominion,

Hot Creek, lies some four miles south of the Indian Jim ledge, and has been traced for several miles. Its width ranges from twelve to twenty feet. Its mineral exhibited to us is of a very high grade, and may be treated quite successfully without roasting. A toll road to Hot Creek is already commenced. It will not be more than one hundred miles long.

A letter to same, in its issue of September 21st, says: I have never seen a mining district where labor yields so remunerative results as it does in Hot Creek. Wherever a mineral-bearing vein has been worked upon, it has invariably turned out well. How far down the rich ore found on the surface will continue, it is impossible to say, but already there is mineral enough in sight near the surface to keep a dozen mills at work for several years.

Same says, 22d inst.: Three assays of Old Dominion ore, yielded as follows: No. 1, \$917.37; No. 2, \$70.68; No. 3, \$23.56. Two others yielded \$1,557.71, and \$236.97.

Emeralds.

The Union of September 22d has the following: It is gratifying to note the constantly recurring evidence of rapid progress in the development of our mines. The Philadelphia company is driving away at its work with energy and perseverance. John D. Waters is developing the Juniata mine with the most flattering prospect, a large body of ore which will pay handsomely for crushing being already in sight. The Golden Age and Empire company will start up again in a short time, and will keep them till the mine has been thoroughly tested to the depth of five or six hundred feet. The Oxford Beta and Union tunnels are being pushed ahead day and night. Other mines and shafts are being worked with energy and perseverance, and the result everywhere is satisfactory.

Samuel B. Martiu designs sending forward, at an early day, to the Silver Peak and Red Mountain mines, two large double engines, of 100-horse power each—two large boilers, weighing 10,000 pounds each, to each engine; both engines have two 14-inch cylinders.

Humboldt.

We gather these items from the Register of September 22d: Arrangements are being made for working the National and Downey ledges. Work in the Chameleroo making fine headway. The ledge is looked for every moment. Ore is now taken from the Yo-Semite, estimated to be worth \$100 per ton. Specimens from the Sulphur mine, near Humboldt City, have induced certain parties in San Francisco to propose the working of it. In a Winnemucca district, Pease is running a tunnel in the ledges of the Union Series, for an Eastern company. Holt's mine is running most of the time on quartz from the Monroe Series.

The Montezuma mine is looking well. The ore had long ago been thoroughly tested, and found profitable, whether worked by mill process or smelted. As far as yet developed, the ledge shows what those best informed estimate at 15,000 tons of ore worth \$90 to the ton. New and more extensive furcaces are to be built at once. The fire brick are on the way. One hundred thousand bushels of charcoal have been contracted for.

IDAHO.

The Idaho City World of the 8th inst. has the following: The long contemplated project of a bad rock flume in Moore's creek seems about to be realized. Several energetic business men are going into the work. A survey has already been completed. The East Hill Tunnel Company have commenced operation, and are very sanguine of success. The tunnel starts from Bear Run, and is being run in a southeasterly direction to strike beneath the dividing ridge. It is now in about forty feet. If the tunnel succeeds, it will cause a revolution in mining in this Basin. Old times will come back again. Placerville is looking up. Tunnels are being driven into the hills in all directions.

We were shown yesterday, says the Statesman, by Mr. Packard, a nugget worth two hundred and thirty dollars, said to be the largest ever found in the Territory.

MONTANA.

We clip the following items from the Post of September 8th: In the Alameda ledge, a tunnel about one hundred and fifty feet in length has been excavated in the side of the hill, which is chiefly composed of rock. A shaft has been sunk to the depth of twenty-five feet. New diggings have been struck on a branch of Fish creek, in the Silver Star district. Prospects have been obtained which go to show that the gulch is the richest discovered since the discovery of Alder. On Decatur, No. 6, the shaft has been sunk to the depth of three hundred feet, and is now one hundred and fifty feet through, and below what is thought to be the cap rock. The crevice at the bottom of the shaft is from five to ten feet in width. The Butterfield and Hopkins mill, which is located on this lead has been operating very successfully for some two or three weeks past, and there are still forty cords of rock ready for crushing.

Letter from Bannack says: The Linthi stampede is at an end. It turns out that the new diggings will not pay much over wages, yet some are preparing to mine and winter there, but most have returned to Bannack. Our streets are not deserted, but every day adds to the progress that is being made in our mining and business affairs. A train of ten wagons arrived this evening with Prof. Eaton's outfit for mining purposes, for the New York and Montana Mining and Discovery Company, consisting of three complete sets of furnaces, one iron foundry, and tools and lathe for a machine shop.

Letter from Helena says: The miners in this vicinity are doing well, and in a number of small outside gulches, the stuff is found in paying quantities. Mitchell's gulch, near Montana City, is prospecting from twelve cents to two dollars and a half to the pan, and sluicing will be commenced there in a few days. The bars on the Missouri river are also reported rich. The big Ten Mile ditch, about sixteen miles long, will be in a condition to supply this town and environs with water in a few days.

Letter from Highland district, Deer Lodge county, says: The gulch is turning out very well as far as prospected. On the discovery claim, one week ago, the discoverers took out a nugget weighing thirty-four dollars and twenty cents, and have, on an average, one dollar to the pan since that time. On number nineteen, they have, on an average, three dollars to the pan; and on number seventeen, they beat the discoverers by taking out one nugget weighing thirty-six dollars, lacking twenty cents, and another weighing twelve dollars. On every claim where they have struck gravel, they have obtained prospects of from three to twenty-five cents to the pan, and not down over eight feet.

The Republican states that large deposits of coal have been discovered on the Dearborn, about forty miles from Helena. It lies in the form of a ledge, which is three or four feet in width.

The Idaho World says: Intelligence from the Blackfoot country is anything but encouraging. Letters from several former citizens of this place have been lately received, and they concur in representing a gloomy state of affairs. Large crowds are going down the Missouri, and many are going to Salt Lake. The Elk Creek country will almost be depopulated during the winter.

COLORADO.

From the Journal of September 4th we clip the following items: Ed. Moores has leased the Empire mill, mouth of Chase Gulch, and will have it in running order shortly. Thus, one by one of the old stamp mills are being put to use, and not allowed, as has been the case of late years, to remain idle—"dead stock" on the hands of those owning them. Mr. Kipp, on the Leavitt iron lode, has struck a vein of good looking ore at the depth of eighty feet, which is from ten to fifteen inches in width. Georgetown is said to be the liveliest place in the territory. There are still about forty men in the so-called Bear River mines. Some sluices are running, getting about a dw. a day per hand, but most of those there are hunting for the source of the gold, high up among the beads of the stream. Several Eastern parties are getting at work in the Suako River mines. The great richness and extent of the mines is better proved by every blow struck.

The editor had made a visit to the mines in Clear Creek county. We condense his report: Mr. T. H. Lowe is developing the Robinson lode, head of Virginia Cañon, for the Kentucky and Colorado Company. He is getting out some first-class ore. He is also sinking on the Rufus Snyder in Morrie district, for the Louisville and Mill City Company. Further, he is taking ore from a very fair crevice on the Seaton, No. 8 west, for the Lowe Mining Association of Boston. The 12-stamp mill belonging to the latter company was to start soon.

The property of Wamack and Seaton, reputed one of the most valuable in the country, is not being worked. * * About two and a half miles below Idaho, eighteen from Mount Vero, and thirty-three from Denver, General Buford is getting the Federal Union Mining Company under way. The mines consist of the General Buford, Moline, Deerfield, Virgin, Mammoth and Empire lodes. A tunnel has been run to the Buford—forty-three feet—striking it fifty feet from the surface. There is a shaft on the Moline thirty-six feet deep, also an incline, being run in for the purpose of exploration. The other mines, except the Deerfield, are not being worked at present. The dam and mill are now in course of construction. Stone arastras are to be used at first. On the Crystal lode the Fulton Mining Company have their mine well opened with from 300 to 500 tons of ore out, and have taken some steps toward building a mill. They have a shaft 100 feet deep. The Star company have a mill building raised and enclosed.

George Lovelock has found a marsh of thirty square miles in extent, in which peat abounds. It is from four to six feet in depth. The Reporter says: "The value to our mines of this discovery, if the article be genuine peat, and of such extent, is almost incalculable."

CHEAP PROCESS FOR WORKING QUICK-SILVER ORES.

J. L. Kleinschmidt communicates to the Journal of the Franklin Institute a cheap process for working ores containing copper, silver, antimony and quicksilver, which has been practiced for sixteen years at Stefanshutte, in Hungary. This process was represented at the London Universal Exhibition of 1862, when it received a prize medal for its novelty and economy. Our present purpose is merely to describe the manner in which the quicksilver is obtained as the first product of the ores, and which we have thought might be made applicable to working some of the poor cinnabar ores of this State. The process is described substantially as follows:

The great volatility of the mercury requires that it should be separated first. The process is a very simple one, but nowhere else in use, and consists in the roasting of the ores in large round furnaces, and collecting the quicksilver in the upper layer of the ore. On the bottom of the furnace, if it may be called such, is placed a layer of fine ore of four inches in thickness, then follows a layer of wood of twenty-two inches, and on this six inches of charcoal. Now follow layers of partly roasted ore, but not yet free of quicksilver. The fine ore is added in stripes radiating from the center, whilst between these the lumps are placed, otherwise the furnace would have no draft. Therefore the ores, which have been once roasted, but yet contain mercury, are separated by sieves into fine ore and lumps. Uppermost come the fresh unroasted ores, and the top layer, in which the quicksilver is condensed, consists altogether of lumps. The whole quantity of the ore thus arranged should amount to about fifty tons. A wood-pile is in the center of the kiln, from which it is fired and burns during about four weeks. In consequence of the heat produced by the burning of the ores, the mercury is volatilized, and passes through the upper layer of the ore, where it is condensed in the form of globules. It is only necessary that these remain throughout and at all times cold, and that the places which perhaps get warm are at once covered with cold lumps to prevent the loss of mercury; therefore watchmen are at the furnaces day and night during the whole process of the operation.

After the kiln is burnt out, the upper layer, which is full of metallic quicksilver, is carefully taken away and washed in wooden tanks by the help of sieves, as it is done in the washing of the ores. The quicksilver goes through the sieve, and remains with the ore dust on the bottom of the tank. From the latter it is separated by boys, who wash it in small wooden troughs. [Californians, who are accustomed to the use of the "long tom," would at once improvise a much better method than the above, for separating the quicksilver from the surface of the coarse lumps of ore.] For this purpose a building are three tubs containing water, and on each of them stand three or four boys from ten to sixteen years old. Every one takes some of the mixture of dust and quicksilver in his trough (sic) and, keeping it below water edge, he gives it a great many small shocks against the wall of the tub, whereby the quicksilver settles to the bottom of the trough. That part of the roasted ore which yet contains quicksilver is worked over a second time, as described above; the lower portion, however, which is free of mercury, goes to the furnace.

In working for quicksilver alone, this portion of the ore would, of course, go to waste. Rude as this process may seem, it is stated to the authority before us, that in working ores containing from less than one to as high as sixteen per cent.—the average being 1.63—the yield of quicksilver reaches ninety-four per cent. of the assay. In former times a great many costly experiments were made to obtain the quicksilver by the use of retorts, furcaces, and every other known expedient, with condensing chambers constructed after the usual form. After all these costly experiments had been tried and abandoned, resort was finally had to the simple process described above, by which the cold ore itself is employed for the condensation of the quicksilver. This process is now a decided success, and has superseded all others at that locality. Of course, the roasting should be done on a properly constructed and tight hearth of fire-brick.

It may be proper to state, in relation to the chemistry of the process, that there is a large amount of protoxide of iron present in these ores, which must greatly assist in oxidizing the sulphur and driving off the quicksilver. Gray copper ore will give out its mercury on being heated in a close retort; but red cinnabar contains so much sulphur that it must have access to oxygen before it will part from its metal. Nothing is said in the account of this process about the use of lime, which could certainly be made useful if it could be obtained without much cost. The sulphur has free opportunity to escape from the best sulphurous acid gas; so that we have then three causes by which the quicksilver may be set free—1st, heat alone; 2d, the oxygen of the atmosphere; 3d, the influence of the oxyd of iron. A covering of turf, kept wet and cool, would, doubtless, be a great improvement, and would collect a large amount of free sulphur, which might, perhaps, be made of some value, as it could easily be collected with the quicksilver. Turf is sometimes used in some parts of England, in the manner described, for the especial purpose of collecting sulphur from pyritous ores.

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

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22v1

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W. B. EWER, SENIOR EDITOR.

C. W. M. SMITH, W. B. EWER, A. T. DEWEY.
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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. O. P. Truesdell will act as our Corresponding Agent and Solicitor in the interior of this State, from this date August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.

Mr. J. N. Hudson, is authorized to solicit subscriptions, advertising, etc., for the MINING AND SCIENTIFIC PRESS, in San Francisco, and to receipt for the same.

The Agency of Chas. A. Russell and Erwin Zimmerman, for this paper, ceases from this date. Sept. 8th, 1866.

SUBSCRIBERS who do not receive the MINING AND SCIENTIFIC PRESS in due time, are requested to inform the publishers.

San Francisco:

Saturday Morning, Sept. 29, 1866.

CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, corallines, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

A. H. Howk, Weston, Nye county, Nevada. We have received a fine collection of ores from Mr. Howk, among which we recognize chloride of silver, black sulphurets, blue and green carbonate of copper, No. 5; a specimen of jasper, No. 4. The collection also contains a very fine specimen of fluoate of lime (not numbered), showing an aggregation of very perfectly formed cubical crystals. Fluor spar is slightly soluble in waters containing bicarbonate of lime in solution. The alkaline carbonates decompose it, producing carbonate of lime or calcite, and a subsequent change of the calcite may produce other forms of crystals or pseudomorphs. Fluor spar is often changed to quartz by substitution, in the same manner as wood becomes petrified. We also notice in this collection several very interesting twin crystals, quite extraordinary in character, which are evidently feldspar, in a state of incipient decomposition. We shall probably allude to these further at some future time. The specimen marked No. 1, is evidently a tungstate—probably of iron and manganese. The collection also contains a very fine specimen of petrified wood—probably an extinct variety of pine.

Mr. GEORGE W. BUNNELL, of 611 Clay street, San Francisco, sends us a very fine specimen of petrified oak, a portion of which is beautifully opalized; the balance being highly silicified, but retaining its fibrous character, and being very soft. It was taken from a shaft sixty-five feet in depth, at French Gulch, in this State.

CALIFORNIA LOCK AHEAD.—A special premium was awarded Mr. W. C. Bussey, for his superior combination powder and hrglar-proof safe lock, at the recent State Fair. We are sure no award was ever more meritoriously bestowed. This lock was described at length in the PRESS several months since. At that time it was adopted by several haaking houses in this city, and we are now assured that the remarkable claims asserted in favor of the lock at that time, have been confirmed since by its practical use. We feel an interest in this California invention, and wish to see it speedily meet with the success it is ultimately certain to attain. Mr. Bussey, having properly first fairly tested his lock in California, is now desirous of introducing it in the East, and offers to dispose of the right for several States at very reasonable rates.

MERCANTILE GAZETTE AND PRICES CURRENT. This long established and highly useful journal has removed its office of publication to the northeast corner of Clay and Battery streets. The publishers, Messrs. E. D. Waters, Sr. & Co., have secured a commodious suite of rooms, conveniently located and admirably adapted to the increasing business of the paper.

QUARTZ MILLS ABOUT VIRGINIA AND GOLD HILL DISTRICTS, NEVADA.

Showing the Amount of Ore Reduced per Month, Number of Stamps Employed, Number and Variety of Grinding and Amalgamating Pans, and other Machinery.

We believe the following schedule gives the most comprehensive view of quartz milling about Virginia City, Gold Hill and neighboring places, yet published. As an article for comparison and reference, it will be highly appreciated by millmen and parties interested in mining machinery and quartz operating everywhere. It has cost no little time to obtain this information and present it in so brief a form. The statement shows the amount of ore reduced per month, which, in many instances, varies from the full capacity of the mills:

NAME OF MILL.	TNS. MTH.	NO. MILLS.	Mills Located in Virginia City.
Summit.....	900	20-11	Wheeler pans, 4 settlers, 1 small Varney pan and settler, 1 agitator.
Central.....	670	13-4	Hepburn pans and 4 settlers, working 500 tons wet; 4 furnaces and 6 barrels, working 170 tons dry.
Ogden.....	1,000	22-12	Wheeler pans, and 4 settlers.
Empire.....	800	21-24	Knox and 2 Wheeler pans.
Hoosier State.....	400	8-24	Knox Pans.

Mills Located on T-Mile Canon.

Mariposa.....	600	12-6	Wheeler pans, prospecting battery, 2 Knox pans, 3 large settlers.
Chas. Land's.....	1,000	20-1	Blake's breaker, 10 Wheeler pans, 5 settlers, and 2 grinders for grinding amalgam and working slum.
Bassett's.....	700	16-4	Improved Wheeler and 2 Hepburn pans, 2 tubs and 3 settlers.
Winfield, or } Booth's, } Gould & Curry.....	1,000 3,502	18-1	Blake's breaker, 8 Hepburn pans, 1 grinder and 4 settlers.
Empire State.....	700	15-2	Hepburn, 2 Wheeler, and 20 4 ft. Knox pans.
G. Attwood's } Ply Deland's }	600	16-26	Knox pans, 2 Wheeler pans, and 2 settlers.

Mills in Gold Hill and Gold Canon.

Eclipse.....	700	15-8	Hepburn pans, 2 graders and 4 settlers.
Crowa Point.....	250	8-13	Knox pans and tubs.
Rhode Island } Gr. P. Co. }	1,350	25-8	Hepburn and 10 7-foot Knox pans.
Cuba.....	400	14-14	tubs and 1 agitator.
Gold Hill.....	473	14-24	Knox pans, 6 ft. tubs, and 4 settlers.
Sapphire.....	800	16-56	Knox pans.
Petaluma.....	300	8-18	Knox pans.
Imperial.....	1,100	41-74	Knox pans.
Empire.....	900	16-12	Wheeler pans, 6 settlers and 2 agitators.
Marysville.....	500	9-30	5 ft. plain pans and 2 agitators.
Douglas.....	450	10-26	plain pans and 1 agitator.
Atlas.....	750	15-8	Hepburn pans and 4 settlers.
Piate, Piate Co. }	1,200	20-12	Hepburn pans, 6 8-ft settlers and 1 grinder.
Pacific, Al. }	1,300	30-15	Wheeler pans, 2 large settlers and 2 graders.
Succor.....	600	20-12	Hepburn pans, 24 Walelee flat-bottom pans, 1 settler and 1 agitator.
Confidence.....	650	12-8	Varney pans, 5 settlers and 3 agitators.
C. C. Reduction.....	600	15-6	Hepburn and 4 5-ft flat bottom pans.
Phoenix No. 1.....	500	16-6	pans and 4 settlers.
Eastern Slope.....	550	12-12	Hepburn pans and 3 large settlers.
Swaasea.....	600	12-22	6 ft. tubs, 3 settlers, prospecting battery and pan.
Excelsior.....	530	10-18	Knox pans and 1 settler.
Sheramonto.....	550	12-12	7 ft. iron pans and 1 agitator.
Weston's.....	700	15-9	Wheeler pans, 5 settlers and 1 agitator.

Mills on Carson River, from Empire to Dayton.

Mexican.....	1,250	41-12	Hepburn pans, 4 furnaces and 10 barrels. By wet process, 1,000 tons; by dry process, 250 tons.
Yellow Jacket.....	2,300	40-30	Hepburn pans, 15 settlers, 2 agitators and 2 graders.
Bruaswick.....	600	8-8	Varney pans and 4 agitators.
Merimac.....	1,350	20-15	Wheeler's, 4 Knox and 1 Varney pan, prospecting battery and pan, 2 large settlers and 10 agitators.
Vivian.....	750	16-8	Wheeler pans, 4 settlers and 1 agitator.
Santiago.....	1,100	24-1	Blake's breaker, 14 Wheeler and 4 Hepburn pans, and 9 settlers.
Eureka.....	1,100	20-10	Wheeler pans, 5 settlers and 2 agitators.
San Francisco.....	500	10-3	Hepburn pans and 7 tubs.
Franklin.....	500	10-2	Wheeler and 2 Hepburn pans, 5 tubs and 2 settlers.
Island.....	500	10-10	Varney pans and 3 settlers.
Ophir Co.'s.....	1,200	24-12	Hepburn pans and 6 settlers.
Dayton, No. 1.....	500	20-6	Wheeler pans, 2 8-ft settlers and 2 agitators.
Dayton, No. 2.....	800	15-8	Varney pans, 4 settlers and 3 agitators.
Birdsall & Carpenter.....	2,400	30-20	Wheeler pans, 10 large size Wheelers, 5 agitators, 1 grinder and 1 Blake's Rock breaker.
Golden Eagle.....	500	10-24	Knox pans and 1 settler.
Illinois.....	500	20-6	Hepburn pans, 2 settlers and 3 agitators.
Imperial Co.'s.....	2,400	56-16	Blake's breaker, large size, 14 Hepburn pans, 27 7-ft tubs, and 7 7-ft settlers.

Mills at American Flat.

Bay State.....	1,400	23-14	Wheeler pans and 7 settlers.
Rigby & Co.'s.....	400	15-5	Varney pans and 4 settlers, 1 extra pan and settler for tailings, and 1 barrel.

Mills in Washoe Valley and Vicinity.

Temecac.....	800	15-12	Wheeler pans and 3 large settlers.
Manhattan, } N. Y. Co. }	1,300	24-16	pans, 8 settlers and 1 grinder.
New York.....	1,300	24-16	Varney pans, 8 settlers and 1 grinder.
Atchison, } Savage, Co. }	1,200	20-16	breaker, 16 Wheeler pans and 8 settlers.
Minnesota, } Savage, Co. }	1,000	16-1	breaker, 12 Wheeler pans, 6 settlers and 1 agitator.
Buckeye.....	700	10-1	breaker, 8 Wheeler pans and 4 settlers.
Ophir Co.'s.....	450	72-2	Working only 36 stamps, Freiberg process—9 furnaces, 24 amalgamating barrels, work 43 men. Full capacity of mill 750 tons.
J. H. Hall's.....	1,725	60-2	Blake's breakers, 8 furnaces, 20 barrels, 6 Varney's and 4 Wheeler & Randall pans.

Total—62 mills; 53,787 tons; 1,226 stamps; 219 pans.

The above is a correct list of the mills now running on ore from Virginia and Gold Hill Districts.

The information has been furnished to our own reporter (Mr. Thomas Starr), in every case by those well qualified to give it correctly. There are a few small mills and arrastras running irregularly, and not enumerated in this list, and working about enough ore to compensate for stoppages of the other mills.

There are about a dozen mills now idle in the District, some of them undergoing repairs, but none of them in running order.

Hepburn & Peterson.

This mill, at Frank Town, above Ophir, on Mill Creek, deserves more than a passing notice. It is run by steam and water. The water is applied on a breast wheel of sixty feet diameter, and twelve feet breast, giving at full capacity about 300-horse power. Forty stamps are used for the Freiberg process, and twenty for wet, making sixty; two of Blake's breakers, improved jaw; eight furnaces, and twenty barrels for dry process, and six Varney and four Wheeler & Randall pans for wet. Four more Varney pans are to be introduced. Mr. J. B. Hiskey, Foreman and Assayer of the mill, is experimenting with and working some of the Black Rock ore, and obtaining good results. Working capacity of mill—dry process, 675 tons; wet process, 1,050 tons.

GOLD MINING IN AUSTRALIA AND CALIFORNIA COMPARED.

No little excitement was created in this city, a few weeks since, by the publication in the daily papers of some extracts from a report upon the mines of Australia, by Mr. Hopkins, a distinguished English mining engineer, the results set forth in which were considered quite extraordinary; and from which it was inferred "that quartz mining in Australia had reached a point of system and perfection not yet attained in California." Also that "The moral to be gathered from Mr. Hopkins's report is, that with all our boasted ingenuity skill and energy, we have allowed John Bull, in Australia, to get ahead of us in quartz mining." Again, in the same paper we read, speaking of the Australian method of working poor mines, "it only remains for us to develop and work them with the same care, to make our own dead and deserted mining districts the most prosperous in the world."

We took no notice at the time of the ridiculous comments upon this report and inferences drawn therefrom, depreciatory of the miners and mechanics of California, for the reason that we supposed that no persons who took any pains to inform themselves would be misled in so plain a matter, even by our "respectable dailies." Having learned, however, that some of our capitalists had begun to think, sincerely, that Californians really knew but little about mining, and were even talking of withdrawing, or at least withholding, their capital from mining investments, until such time as they could import a few Australians to teach as how to work our own mines, we have thought it time to disabuse the public mind of such erroneous and mischievous ideas.

It is not at all a matter of wonder that such opinions should prevail, and that our miners should call in vain for capital to aid them in developing their mines, when such paragraphs as we have quoted are seriously put forth in those publications to which capitalists are accustomed to look for reliable information. And yet we have before us even another paragraph, more discouraging and more ridiculous than either of the above. It reads as follows, and may be found in the *Bulletin* of the 28th June:

"The enormous extent of poor ores, not workable by any process now in use on the Pacific, but which, if this Australian method is applicable, might be profitably mined, should be a sufficient inducement to send a skilled engineer to examine and report upon the Australian quartz mines. But even the consideration of increased economy in working mines already paying well would justify the leading companies sending an officer at their joint expense to ascertain the truth of these statements, and answer the question whether California can learn anything from the example of the younger gold fields of Australia."

We trust our moneyed friends will not act too hastily in reference to the above suggestion, for it is more than probable that were they to send forward some "skilled engineer" for the purpose specified, he would meet on the way some Australian engineer seeking the shores of California for the very same class of information! For, in late mining journals published in the quartz mining regions of Australia, we find the frank admission that California is ahead of Australia, both in her machinery and processes. Nearly a year ago, we received private letters from Australia, making the same acknowledgment, and asking for information and machinery to enable them to work their ores more perfectly. By reference to our issue of August 25th, it will be seen that California machinery is already being introduced there. If San Francisco capitalists will take and read the paper published at their very doors, and devoted to the specialty of mining, they will not be carried away with such erroneous ideas.

The great bug-bear held up is the report of Mr. Engineer Hopkins, that the Black Hill Mining Company is making quartz pay a fair profit that yields only two dollars a ton. It should be borne in mind that the quartz which that company is crushing is a large mass of decomposed "out crop," which is put through a mill at the rate of about four tons a day to a stamp. Thousands of tons of such rock, taken from the old "dump piles" about Grass Valley have been crushed, at the same rate and at no greater cost than is required for the "Black Hill" ore.

Mr. Attwood, another skillful Engineer, and old Grass Valley miner, with his associates, is now putting up a 40-stamp mill on a mine near Lincoln, almost identical in character with the Black Hill mine in Australia, which he will guarantee will crush as much as the 60-stamp mill of the Australian company. In fact, a five stamp mill, already on the mine, has for a long time been crushing at the rate of over thirty tons per day—a much greater duty, per stamp, than is being obtained from the wonderful Australian machinery, about which so much has been said.

The Australian company pays ninety-eight cents per ton for taking out and delivering their rock at the mill; Mr. Attwood has let a contract for taking out and delivering his ore at the mill for forty cents per ton, 250 tons to be delivered daily, and he will crush it, or can let a contract for having it done, at an expense of forty cents more, against sixty-one cents, the reported cost of the Australian company!

It will thus be seen that the California company can make a handsome profit out of their mine at a yield per ton which would run the famous Australian Black Hill mill in debt at the rate of over \$1,000 per week! We presume that it is the calculation of Mr. Attwood to work this mine chiefly with Chinese labor, which can be obtained here as cheap as white labor can be had in Australia.

With regard to the other mines to which Mr. Hopkins refers in his report, and where the ore has to be broken out from hard rock and raised up inclines, and, of course, crushed at a greater expense of power, the Australians will have some advantage in raising their rock, as such work cannot be done by any but skilled labor; but in milling, we doubt whether it can be shown that even such rock can be crushed any cheaper, if as cheap, in Australia, as at the better constructed mills of California, where the cost of crushing is given in the following extract, which we have selected from a tabulated form, in a report recently made by Mr. A. Remond, of the California Geological Survey: Mr. Remond, in his report, says the Adelaide Company, located three miles from Coulterville, crushes and amalgamates at a cost of only seventy-five cents per ton. (We are told, by those who are acquainted with this mine, that the rock there is but slightly decomposed, and not near as soft as, from the descriptions given, we must infer the rock of the Black Hill mine to be.)

We give the cost of crushing in the following mills, all in the single county of Tuolumne, a county where the general facilities for labor, etc., are below the average of the central counties in the State:

	Per Ton.
Excelsior Mill, near Uniontown (water).....	\$1.00
Adelaide Co., near Coulterville.....	.75
Daguer, North Fork Tuolumne, (steam).....	1.75
Alabama, Whiskey Hill (water).....	1.00
Preston's, Whiskey Hill (water).....	1.50
Italian, Whiskey Hill (water).....	1.50
Old Whiskey Hill (water).....	1.50
Wyman's, Whiskey Hill (water).....	1.00
Shawmut, Blue Gulch (steam).....	1.50
Josephine, Blue Gulch (water).....	1.50
Brown's Flat, Brown's Flat (water).....	1.50

Doubtless when the report of Mr. Remond

is completed for the entire State, the list of mines, where rock is crushed equally cheap, may be increased many scores in number. As to the skill in saving gold, we do not believe that either Mr. Hopkins, or any other person acquainted with the unskillful mode of working in Australia, as compared with that practiced in California, will set up any denial to the well established fact, that quartz crushing mill-work, whether for construction or operating, California mechanics and California miners are ahead of the world—the "respectable dailies" of San Francisco, and their echoes, to the contrary notwithstanding.

NOTICES TO CORRESPONDENTS.

Owing to the great and rapidly increasing amount of our correspondence, consisting largely of queries relating to various interesting points connected with Mining and Metallurgy, we find it is imperiously necessary, for want of space, to confine our replies in future chiefly to a series of brief notices, which hereafter will appear regularly under the above caption.

MOSELUMNE HILL.—Opals, according to species, have a value, varying from little more, and in some cases inferior, to that of the choicest species of agate, emerald, and jasper. This remark applies only to the common opal; a variety known by the name of *hydropne*, possesses a pearly white appearance, and is non-transparent until immersed in water—hence the name. For cabinet specimens this has some value. The valuable varieties are *fire opal*, or *girasol*, affording hyacinth-red and yellow reflections. This is more valuable than the preceding, and is only inferior in price to the precious or chatoyant opal, with its brilliant play and variety of colors. So highly is this valued, that a fine one of good size is almost equal in value to a large emerald. Opals of superior fire, set with diamonds are very beautiful. The opal is a form of silica, mixed with from five to ten per cent. of water, probably a mechanical mixture of anhydrous and hydrated silica. Some varieties contain crystallized silica, which latter can be obtained separately by dissolving the amorphous silica by means of a strong solution of potash. The matrix of opals is only found in districts that have been subjected to igneous agencies. It is probable that California will produce these gems pretty abundantly. The most probable localities being the basaltic Table Mountains, near the sources of the Tuolumne and San Joaquin, and the basalt of Shasta. Those found near your city are possibly derived from the former districts.

J. M., COLUSA COUNTY.—It is to be regretted that the speculative fever in search of petroleum, which existed about fifteen months ago, should have collapsed so rapidly, as there does actually exist in California a solid basis of enterprise in this direction, which is elsewhere alluded to in the present issue. We understand that the extraction of petroleum is favorably progressing at San Buenaventura, Santa Barbara county, and also in Tulare county. The very deep borings now in progress in Humboldt county, are not spoken of very encouragingly.

J. Y., HUNTER'S VALLEY.—The mineral you describe, judging from the situation in which it is found, is most probably a form of carbonate of copper, known by the name of "azurite," in consequence of its rich blue color. This variety of carbonate of copper is more rare than the green colored or malachite. The formation of both is attributable to the same cause, viz: the combination of carbonic acid, conveyed by the joint means of the atmosphere and the percolation of rain water, the contact of which, with oxyd of copper already formed in the vein, gradually converts the oxyd into the beautiful carbonate. Very fine and massive pieces of either variety possess a value much beyond that of ordinary copper ores of equal percentage; as many articles of *bijouterie* and richly ornamental jewels, caskets, etc., are chiefly composed of this material. In Russia, numerous individuals obtain remunerative employment in making up such articles, by whom a skill is acquired and often displayed scarcely inferior to that of the most celebrated Roman and Tuscan mosaic workers. Four doors of this character in the palace of the Emperor of Russia, have been

valued at \$50,000—the material of which they were chiefly formed was derived from the copper mines of Nischino Tagilsk, the property of Prince Demidoff. These mines are said to have afforded one hundred tons of malachite in almost a single mmes.

H. S., SUTTER.—Judging from our own impressions of the general geography of the district adjoining the Great or Mother Gold Vein of California, we are disposed to think that, although the large vein which is found in the vicinity of Jackson, and which can be traced through Sutter and Drytown into El Dorado county, is a branch of, rather than a continuation, of the true "Mother" vein, there can, however, scarcely exist a doubt but that both had a contemporaneous origin, and were formed by similar cosmical influences. If this opinion is correct, there is no reasonable ground for inferring the probability of rich ores being struck on what may be termed the main vein, as compared with one of great size branching therefrom.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, new and important inventions; also, the list of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most of the patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

MACHINE FOR TILLING THE SOIL.—Sylvester Woodbridge, Benicia, Cal., claims a tilling frame, tiller shaft, and guide plate, in combination with a crank on the tiller shaft accompanied with connecting rods, etc.; also a truck frame and driving wheel or cylinder, spur gear and pinion, with or without intermediate gearing, in combination with the usual means for operating this class of agricultural machinery.

DOUBLE REVOLVING PLOW.—John Mott, Danville, Cal. This machine has already been fully described in this paper. The patent for the invention was awarded during the week ending August 14th.

APPARATUS FOR DESULPHURIZING QUARTZ.—Thomas D. Worrall, Central City, Colorado Territory. This inventor claims an improvement on the mode of desulphurizing ores by forcing them through a flue by means of a wind blast, in the presence of flame. He claims 1st, Operating a blow-pipe in a confined space or flue, through which sulphurets are passing, for the purpose of intensifying the heat; 2d, Operating several blow-pipes, up flues that form a junction, so that when the flames meet they may be condensed upon each other, and thus become intensified, for the more ready desulphurizing of the ores; 3d, He claims an X-shaped flue, so constructed that the fire, starting from the extreme points, must meet in the center; 4th, A furnace, with open sides, communicating with the flues, in connection with the blow-pipe is claimed; 5th, He claims, a V-shaped receiver, with perforated base for heating the quartz, when passing over the inner surface, while the fire is passing over the outer surface, and of delivering the same into flues or upon heated plates, etc.; 6th, He claims the use of revolving fan distributors in the V-shaped receiver, in flues or in an open stack, employed for the purpose of suspending the pulverized quartz in its downward descent, and distributing the same upon heated surfaces or through flame; 7th, He claims in combination with the V-shaped receiver, spiral furnace, etc., a continuous muffle furnace, of any construction, horizontal or perpendicular, through which sulphureted ores may be passed for the purpose of driving off the sulphur, arsenic, etc.; passing over the eighth and ninth, he claims, 10th, The spiral furnace, with either a double or single flue, for the purpose of securing a gradual descent of pulverized quartz, or pyrites, while the fire is ascending in or under said flues. Five other claims are noted, making fifteen in all, in this novel apparatus for desulphurizing ores.

PATENTS can be obtained for citizens on this Coast, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, in one-half the time it takes to operate through Eastern Agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to prepare claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE.

Patent Agents, 505 Clay street, San Francisco.

WEEKLY STOCK CIRCULAR.—T. F. Cronise, who originated, and for nearly three years conducted the *Weekly Stock Circular*, of this city, has recently disposed of the same to John H. Carmany, who will hereafter continue its publication. The *Circular* has now, for some weeks, been under the management of Mr. Carmany, who has given abundant evidence that he is in every way qualified to keep up the high reputation which this periodical has attained under the able management of his predecessor.

SODIUM AMALGAM.—The company lately organized in New York for the manufacture of sodium-amalgam, for amalgamation purposes, have recently established an office in this city for the sale of the same, and have sent an agent hither to introduce it to the attention of miners. His card will be found in another column. We learn that the singular error which was originally promulgated at the East as a commercial *canard*, to the effect that this material is a dangerous explosive, still continues to obtain credence, to some extent, on this coast, notwithstanding its repeated denial on the highest scientific authority in the country. The amalgam is as innocent of any explosive properties, as a piece of charcoal—in fact it cannot be made to explode. A very interesting discussion, with regard to this new amalgamating agent, will be found on the seventh page of the present issue. Miners and others desiring any further information with regard to this compound, or wishing to purchase the same for mining purposes, should call on Mr. Slosson, at the Union Foundry, in this city.

PACIFIC HYGEIAN HOME.—The object of this new corporation is the treatment and cure of diseases and ailments by the process known as "hygienic medication," and the dissemination of correct ideas upon that subject. Capital stock, \$15,000. Trustees—Dr. Barlow J. Smith, Dr. R. S. Macbeth, and Harry Andrews. The Association have purchased the Fountain Farm near Oakland, where their Institute is to be located. They will shortly open an office and lecture hall in this city, to which will be attached a bathing establishment. Doctor Smith, as consulting physician, will preside at the office and practice in this city, while Dr. Macbeth will have charge of the Home, which is in a pleasant, healthful, elevated and romantic situation, at the mouth of the cañon on the telegraph road, four miles from Oakland. Mr. Andrews, an active, energetic young man, will act as business agent. Dr. Smith, with comparatively limited accommodations, has already accomplished much at Fountain Farm in favor of the hygienic system.

We have never quite outgrown the feeling of delight which we used to experience in the possession of a *new book*, and the display of new, attractive and valuable books in the handsome show-windows of Messrs. A. Roman & Co., Nos. 417 and 419 Montgomery street, is to-day the most pleasing sight that meets our eyes. We advise any who wish to pass a pleasant and profitable half-hour, to visit their large and handsome store. Their house is confined exclusively to the book trade.

"SULPHURETS," and "Our Lady Correspondent," of the MINING PRESS, have each contributed an interesting article on Mines and Mining in Amador county. Hope they will keep up the fire. One of our subscribers complains that "Sulphurets" fell into an error, in stating that the sulphurets of the middle or Jackson range are richer than those on the upper or Pine Grove. He thinks it is just the reverse.—[Amador Ledger.]

STRANGERS visiting San Francisco can use the Burglar Proof Vault of the CALIFORNIA BUILDING, LOAN AND SAVINGS BANK, California street (one door from Sansome street), for the temporary deposit of Gold Dust, Coin, Bonds, etc., at a small monthly rent, according to the value of the property deposited, for which the Company will be accountable.

9v12-1m THOMAS MOONEY, President.

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21v12-3m9p

WORDS FOR MINERS.—The Gold Hill Daily News, Nevada—a medium of good authority—saith thus:

The MINING AND SCIENTIFIC PRESS is a weekly journal, published in San Francisco, which is entitled to the subscription patronage of every practical miner in Nevada, and every person interested in Nevada or California mining operations. It is a well gotten up sixteen-page quarto; and its reading would tend vastly to the particular "posting" and general enlightenment of our sort of working folks. Subscribe for it. Five dollars a year; three dollars for six months. It should have no agency in Virginia and Gold Hill; but we see none advertised in its columns. Every new improvement in mining implements and operations are fully described by words and illustrated by wood cuts in this excellent publication. A specimen number can be seen at our office.

Continued Subscriptions.

For the reason that it is not always practicable to have our agent call upon subscribers for a renewal of their subscriptions as soon as their terms expire, we shall, when requested, continue to send the paper until our Collector calls around. This will only apply to old subscribers in the State of California, whose residences are within our regular canvassing routes. If the subscription is not promptly paid when the Canvassing Agent calls, the paper will be immediately stopped, and the bill left with the postmaster or express agent for collection.

It is not our intention to send the paper beyond the time desired by any subscriber, and should we accidentally or inadvertently do so, we shall expect the subscriber to send us written notice to discontinue.

By Law any person taking a paper from the post office is liable for payment. The Courts have decided that removing without giving notice to the publisher, and leaving the paper uncalled for, is *prima facie* evidence of intentional fraud on the part of a subscriber.

No new subscriptions or renewals received without payment in advance. August 1, 1866.

PHILADELPHIA AGENCY,

Families wishing to subscribe or advertise in the MINING AND SCIENTIFIC PRESS can be accommodated by calling upon our Agent, Mr. TURNER HAMILTON, at the Assembly Building, 106 South Tenth street, Philadelphia, Pa., where sample copies of our publications can always be found.

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Every article made at the above Works is WARRANTED PERFECT, and made of pure, soft, refined LEAD. Orders can be sent direct to the Factory, or to the subscribers.

THOS. H. SELBY & CO.,

13v13-3m

116 and 118 California street.

SCIENTIFIC AND EXPENSIVE CIGAR LIGHTING.
An English lord, wishing to do a little more than any of his brother aristocrats had done before him, went to a telegraph office in London, and had his cigar lighted by an electric spark from Heart's Content, sent through the Atlantic cable. This feat cost him 200 guineas, or \$1,050 in gold. Some exceedingly scientific persons, who cannot afford the expense of the above, and still loth to light their cigars in the ordinary way, rub phosphorus on the end and then breathe gently upon it. The heat of the breath ignites the phosphorus and lights the cigar. We are anxiously awaiting a plan that will beat this.

THE ANCIENT OPHIR.—It is claimed that the ancient city of Ophir from which Solomon obtained his gold, was situated in that part of Southeastern Africa, lying to the north of Zululand, as the ruins of an ancient city are said to exist there. The tribe living in the locality allow no approach to the ruins, from which it is supposed they procure the materials for the manufacture of certain gold ornaments they are in the habit of wearing.

THE VALUE OF LITTLE THINGS.—Eyelets, that cost but eighteen cents a thousand to manufacture, are consumed to an enormous extent in this country, it being estimated that over \$4,000,000 worth, or at least 250,000,000 of them are annually used for skirts, shoes, corsets, etc.

PETROLEUM EXPORTS.—The exports of petroleum from this country to Europe, for this year, up to the present date, have been four times as large as that of the preceding year. In 1865 there were 7,816,972 gallons exported; in 1866, 30,184,142 gallons have already been shipped.

NITRO-GLYCERINE.—Forty acres of salt meadow land, within a few miles of New York, have been purchased for the purpose of manufacturing nitro-glycerine.

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PALMER, KNOX & CO.,
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Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.
WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel.
Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.
KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST.
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies
Having been engaged for the past eight years in quartz mining and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 15v10q-1f

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ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.
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Our Patent Agency.

THE PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of Letters Patent from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

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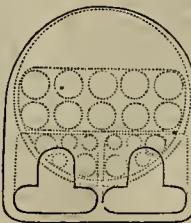
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Brodie's Improved Patent WINO BLAST SEPARATOR,

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Of all sizes, constantly on hand; Quartz Mill Shoes and

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Packing, requires no springs or screws; is always steam-

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Screw Propellers of all kinds, and Steam Boat Machinery

generally made to order, and warranted to give perfect

satisfaction in every particular. 25v12-3m

MINING SUPERINTENDENTS.—We think the Copperopolis *Courier* is unnecessarily sensitive in its review of a letter from Copperopolis, which we published in our issue of July 21. We never endorse the views of our correspondents, but leave them to stand or fall upon their own merits. We regret that any unpleasant feelings should have been generated by the communication in question. Did space permit, we would give the article from the *Courier* in full; but as it is, the following extracts must suffice:

If an unpopular "mining engineer" loses, through want of common sense, a remunerative occupation, that same mental deficiency is apt to create in his bosom an envious feeling toward his more intelligent and reliable successor. Narrow minds are generally illiberal, and are therefore well adapted to fault finding. We will say this much of the superintendents of the mines mentioned in the communication: Mr. Balch, of the Union, is a practical man. It is generally conceded that no other man on the Pacific Coast can occupy his position with equal ability. The Union mine, under his superintendency, is the best worked mine we have ever seen, not excepting the mines of Washoe.

The errors of former superintendents have or will cost the Keystone company perhaps \$150,000. Under the supervision of Mr. Sheldon, the present superintendent, the mine is being opened in a manner satisfactory to the judgment of the most practical miners. Mr. Sheldon is a scientific miner. His practical knowledge is the result of long experience, and his scientific attainments that of constant study. He, unlike many worthless superintendents we have seen, keeps no crack nugs. He is a modest, unassuming gentleman, and knows more in one hour than the dictator of the communication referred to ever did or will know in his life.

The superintendent of the Napoleon mine, Mr. Leeds, is an excellent miner, a good business man, and a gentleman withal. He is well known among miners and scientific men, and has the reputation of being one of the most skillful men of his profession in the United States.

STILL MORE OF IT.—The *Amador Ledger*, in alluding to an article which we published a few weeks since, in reference to a new description of mineral deposit, which is now attracting considerable attention in Placer and Calaveras counties, says: "The Coney mine near Jackson, is unquestionably of the same character. For two years past it has yielded by battery about six or seven dollars per ton, and ten per cent. of sulphurets, worth at the mill from \$150 to \$200 per ton. One or two other mines of the same kind have lately been discovered in the county, and are likely to prove immensely valuable. Prospectors should closely study the nature and general features of these mines, as those unacquainted with them would never suspect them as being of any value. The miners of El Dorado and Calaveras, who have so long searched in vain for quartz mines among their ancient rich placers, will find that 'that's the truck' in which their treasures are concealed."

WM. H. KEITH & CO., Chemists and Apothecaries,

PROPRIETORS AND MANUFACTURERS OF

WM. H. KEITH & CO.'S WINE OF PEPSINE, OR RENET WINE, a new and efficacious remedy for Dyspepsia, Catarrh, etc. WM. H. KEITH & CO.'S GINGER, a new and valuable compound of Cod Liver Oil, put up in glass jars. WM. H. KEITH & CO.'S LEMON APERIENT, or Purgative Lemonade, an agreeable, cooling and active purgative, of mild laxative, as required. WM. H. KEITH & CO.'S SAPONACEOUS TOOTH POWDER. DEVINE'S PITCH LOZENGES, for the cure of coughs and colds. WM. H. Keith & Co's Florida Tooth Wash. Wm. H. Keith & Co's Granula Effervescent Citrate of Magnesia. Wm. H. Keith & Co's Rosemary and Castor Oil Hair Invigorator.

WM. H. KEITH & Co. being in frequent communication with Eastern and European markets, are continually receiving their stock of Pure Drugs, Rare Chemicals, Fancy Goods, and Toilet Articles, Pure Oils, etc. They also give special attention to replenishing ship medicine chests. Also, just received, a large and well-selected invoice of HERNSTEIN'S CELEBRATED INSTRUMENTS, consisting in part of Amputating and Oblique acts, Pocket Cases, etc. Physicians and others at a distance ordering goods from us, can depend upon having their orders filled with the same regard to quality and price, as though obtained in person, and we give particular attention to packing and forwarding the same.

WM. H. KEITH & CO.,
Apothecaries' Hall, No. 521 Montgomery street,
15121y Between Clay and Commercial, San Francisco.

California Steam Navigation COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE.
CHRYSOPELUS.....CAPT. A. FOSTER.
YONEMITE.....CAPT. W. B. BROWN.
CORNELIA.....CAPT. V. BROWN.
JULIA.....CAPT. E. CONKLIN.
One of the above steamers leave BREADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Steamships ALAX, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SENATOR, leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.
Office of the Company, northeast corner of Front and Jackson streets.
15121y B. M. HARTSHORNE, President.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

International Hotel, JACKSON STREET, BETWEEN MONTGOMERY AND KEARNY STS., SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2.50 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House. Price of charge, and to any part of the city for 50 cents.
21212 F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL, K Street, between Third and Fourth, SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and nicely ventilated. No expense has been saved to make it comfortable and pleasant for guests.
Price of Rooms very low. Meals, 25 cents.
812-6m B. EISENMEYER.

WHAT CHEER HOUSE, SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.
Meals.....25 cents.
Board, per week.....\$1.00
Board and Lodging, per day.....1.00
Single Rooms.....50
Railroad Ticket Office and Stage Office on first floor.
712-3m A. J. SENATZ, Proprietor.

Rheumatism!! ANOTHER WITNESS!

SALMON FALLS, June 17, 1886.
H. BOWMAN—DEAR SIR: HAVING HAD A FAIR test of the virtues of RICHARDS' REMEDY FOR RHEUMATISM, I take great pleasure in stating that its effects upon me have been even better than its recommendations claim. In 1883 I first heard of the Medicine. I had then been for three years severely afflicted with Rheumatism, and having tried everything I could hear of, without any permanent benefit, I concluded to try this also.
On taking the medicine, in three days I experienced great relief, and in one week was entirely free from pain, and had completely recovered the use of my limbs, which had become almost powerless, so much so that I could not dress myself without assistance. Since that time I have been free from Rheumatism. I have recommended RICHARDS' REMEDY to numerous friends, and in every case it has proved successful. I therefore take great pleasure in recommending it to all who are afflicted with Rheumatism, and especially to all who are afflicted with chronic Rheumatism cases.
Yours respectfully,
(Signed) ERASTUS PARSONS,
President of the Gen. Grant Mining Company.

22 RICHARDS' REMEDY is for sale by
H. BOWMAN,
Druggist, Sacramento, 11113
Price, \$2.50 per Bottle.

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Published Saturdays, containing 16 pages, at 50 per year.

HAYWARD, COLEMAN & CO., IMPORTERS AND REFINERS —OF— Illuminating, Lubricating, —AND— PAINT OILS!

CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO—
SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning oil.
A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!
An elegant and complete assortment on hand.
413-3m19 414 Front street, San Francisco.

THE CALIFORNIA Aerated or Unfermented BREAD COMPANY.

Bakery on Folsom Street,
Between Tenth and Eleventh.....SAN FRANCISCO

MESSRS. TAGGART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in partnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit all orders for their truly wholesome and cleanly Bread. We have a sufficient number of delivery wagons at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.
Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention:
Order box at C. J. Hawley & Co's Grocery, corner Second and Jessie streets; Rowland & Walker 547 Clay street; Plim's Carpet Store, Montgomery street, opposite Dick House; E. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the route-men likewise. We expect soon to be prepared to supply Pastry, likewise the Boston Brown Bread, and Beans of the first quality. Due notice will be given.
The present Company is entirely independent of the former California Unfermented Bread Company, neither of them having been in any way connected with that company.

We would cordially invite the public to make a visit to our new bakery.
413-3m S. R. BULKLEY, Business Partner.

RADICAL CURE —OF— RUPTURE!

Treatment of all Deformities of the Body, by DR. A. FOLLEAU's process, 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU
Has his studies and manufactures in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.
He has no connection with any Agency.
813-1111y
Our Circulation.—THE MINING AND SCIENTIFIC PRESS has a large and permanent subscription list, and enjoys a more universal circulation among stockholders and persons directly interested in mining than any other paper of this coast.

Metallurgy.

HOALT & STETEFELDT,
Metallurgists and Mining Engineers
AUSTIN, NEVADA.
Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11111

G. W. MAYNARD, J. H. TIEMANN,
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
210 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.
11112-1y

Copper, Lead, Gold, Silver, Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,
Agent for Townshend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.
Special attention paid to Gold Bearing Sulphurets. 15110-3m

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Tinkell, for the sale of his COPPER SNEEDING PURCHASE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to JOHN S. RISDALE, 21412 At Coffey & Risdale's, San Francisco.

MARTIN & CO.,
Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE
PURCHASE OF COPPER ORES.
Assaying eight per cent. and upwards of copper to the ton. We will make advances upon Ores of Copper. San Francisco, Post Office Box 1259. 22

PACIFIC CHEMICAL WORKS —AND— ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of Manufacturing Chemicals, Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FALKENAU & HANKS,
Laboratory, corner Folsom and Center streets,
Mission Dolores.
Office, 629 Washington street, San Francisco. 212-11m

EUROPEAN METALLURGICAL WORKS,

—AND—
Practical Mining School,
Bryant Street, Between Third and Fourth,
SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test 1 Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphuret, pyrites, and (so-called) "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, rolling by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.
S. F. KIMBALL, J. R. MURPHY, 11110

JOHN TAYLOR & CO. IMPORTERS, AND DEALERS IN

ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BECKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.
San Francisco March 6, 1885. 11110-11f

By EXPRESS.—Two cents per copy will be added to our usual rates of subscription, (to pay Wells, Fargo & Co.'s tariff) on papers sent by express. If connecting express in the interior make additional charges, subscribers must themselves settle the same.

Mining Notices—Continued.

Arbitros Mining Company, Batopilas District, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of August, 1886, an assessment (No. 11) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 311 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty-sixth day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. MARTINSON, Secretary.
Office, 311 Montgomery street, San Francisco, Cal.

N. H.—Until further notice, all advertisements of this Company will appear in the "Mining and Scientific Press."

Big Blue Lead and Silver Mining Company, Cove District, Tulare County, California.

Notice is hereby given that 177 shares of Stock of the above Company, and belonging to the company, will be sold at public auction, on FRIDAY, October 5th, 1886, 12 o'clock noon, at the auction room of John Middleton & Son. By order of the Board of Trustees.

M. O. ELMORE, Secretary.
Office, No. 315 Montgomery street, San Francisco. se15

Consolidated Silver Hill Mining Company—Location of Works: Esmeralda District, State of Nevada.

Notice is hereby given that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of August, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at the office of the company, Room No. 15 Government House, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-second day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN S. MACKENZIE, Secretary.
Office, Room 16 Government House, San Francisco. se1

Copitola Gold, Silver and Copper Mining Company, Uvas District, Santa Clara County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
D. T. Adams	300	10	\$10.00
H. Bish	91	60	6.00
J. R. Leavenworth	72	100	10.00
J. R. Leavenworth	75	100	1.00
J. R. Leavenworth	78	2	1.00
J. R. Leavenworth	80	60	6.00
J. R. Leavenworth	81	60	6.00
J. R. Leavenworth	82	60	6.00
J. R. Leavenworth	83	60	6.00
J. R. Leavenworth	84	60	6.00
J. R. Leavenworth	85	60	6.00
J. R. Leavenworth	86	60	6.00
J. R. Leavenworth	87	60	6.00
J. R. Leavenworth	88	60	6.00
J. R. Leavenworth	89	60	6.00
J. R. Leavenworth	90	60	6.00
J. R. Leavenworth	91	60	6.00
J. R. Leavenworth	92	60	6.00
J. R. Leavenworth	93	60	6.00
J. R. Leavenworth	94	60	6.00
J. R. Leavenworth	95	60	6.00
J. R. Leavenworth	96	60	6.00
J. R. Leavenworth	97	60	6.00
J. R. Leavenworth	98	60	6.00
J. R. Leavenworth	99	60	6.00
J. R. Leavenworth	100	60	6.00

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 719 Clay street, San Francisco, on the eighth day of October, 1886, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. R. BECKFORD, Secretary.
Office, No. 719 Clay street, San Francisco. se22

Diamond Copper Mining Company, Rockland District, Del Norte County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighth day of August, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Allan Chas D.	229	10	\$10.00
Frederick D. Co.	Not issued	718	71.80
Coultidge J. A.	Not issued	175	17.50
Gold Chas.	257	5	5.00
Reeder W. A.	111	1	1.00
Macdon J. A.	316	2	2.00
Randall R. G.	Not issued	60	6.00
Selig M.	153	8 1/2	8.33
Selig M.	213	5	5.00

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of September, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on the second day of October, 1886, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. COOLIDGE, Secretary.
Office, 33 Montgomery Block, San Francisco. se15

Diana Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourteenth day of August, 1886, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States Currency, to the Secretary, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twenty-sixth day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

N. C. FASSETT, Secretary.
Office, 402 Front street, San Francisco. au18

Great Central Mining Company, Yuma County, Arizona Territory.

Notice is hereby given, that the regular Annual Meeting of the above Company, will be held on MONDAY, October 8th, 1886, at 4 o'clock P. M., at the office of said Company, No. 302 Montgomery street, for the purpose of electing a Board of Trustees to serve for the ensuing year; also, for transacting any and all other business that may properly come before said meeting.

O. D. SQUIRE, Secretary.
se22

ENGRAVERS TO ORDER.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices.

DEWEY & CO.,
Patent Agents, Publishers and Job Printers, 505 Clay st.

In correspondents are men of science and learning, and but from all parts of the world. It is published at San Francisco, at \$5 per annum, or \$3 for six months. Address Dewey & Co., publishers of MINING PRESS, San Francisco, [Yre County News.

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.

Assessment No. 14.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of September, 1886, an assessment of two and one half dollars (\$2.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, on the first day of October, 1886.

Any stock upon which said assessment shall remain unpaid on the twentieth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. G. WOOD, Secretary.
Office, 338 Montgomery street, San Francisco.

Notice.—At the above meeting of said George Washington Company, assessment No. 15, levied August 14, 1886, for one dollar per share was rescinded, and all stockholders having paid the same will be credited with the several amounts so paid by them respectively on assessment No. 14 of \$2.50 per share, levied as above. By order of the Board of Trustees.

A. G. WOOD, Secretary.
se22

Hanover Copper Mining Company—Location 1, Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of September, 1886, an assessment of fifteen (15) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, S. Sweet, No. 609 Market street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. S. SWEET, Secretary.
Office, No. 609 Market street, San Francisco, Cal. se22

Humboldt Gold and Silver Mining Company, Sierra District, Humboldt County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of September, 1886, an assessment of two dollars (\$2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, G. O'Hara Taaffe, No. 430 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

G. O'HARA TAAFFE, Secretary.
Office, No. 430 California street, San Francisco. se22

Keystone Mining Company, Copper Canon District, Copperopolis, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of September, 1886, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States, to the Secretary, at his office, No. 440 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the tenth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. P. SUTTON, Secretary.
Office, 410 California street, San Francisco. se22

Kentucky Copper Mining Company, Calaveras County, California.

Notice is hereby given, that the certificates, No. 44 of fifteen shares, and No. 109 of ten shares, Kentucky Copper Mining Company, standing in my name, have been lost. The transfer being stopped, the public are cautioned against purchasing the same.

J. R. DENNIS.
San Francisco, August 20, 1886. au25-3m

Lady Bryan Gold and Silver Mining Company—Location of Works: Storey County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twentieth day of July, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adair L. B.	2109	10	\$10.00
Adair L. B.	2112	10	10.00
Adair L. B.	2127	50	50.00
Adair L. B.	2205	10	10.00
Adair L. B.	2137	10	10.00
Alden R. C.	2235	20	20.00
Arnold H. C.	2241	10	10.00
Armstrong D.	2191	20	20.00
Burling W. M.	1606	10	10.00
Borris G. R.	2259	5	5.00
Brown R. G.	2294	10	10.00
Butman F. A. B.	2222	10	10.00
Butman F. A. B.	2223	10	10.00
Butman F. A. B.	2224	10	10.00
Butman F. A. B.	2225	10	10.00
Butman F. A. B.	2226	10	10.00
Butman F. A. B.	2227	10	10.00
Butman F. A. B.	2228	10	10.00
Butman F. A. B.	2229	10	10.00
Butman F. A. B.	2230	10	10.00
Butman F. A. B.	2231	10	10.00
Butman F. A. B.	2232	10	10.00
Butman F. A. B.	2233	10	10.00
Butman F. A. B.	2234	10	10.00
Butman F. A. B.	2235	10	10.00
Butman F. A. B.	2236	10	10.00
Butman F. A. B.	2237	10	10.00
Butman F. A. B.	2238	10	10.00
Butman F. A. B.	2239	10	10.00
Butman F. A. B.	2240	10	10.00
Butman F. A. B.	2241	10	10.00
Butman F. A. B.	2242	10	10.00
Butman F. A. B.	2243	10	10.00
Butman F. A. B.	2244	10	10.00
Butman F. A. B.	2245	10	10.00
Butman F. A. B.	2246	10	10.00
Butman F. A. B.	2247	10	10.00
Butman F. A. B.	2248	10	10.00
Butman F. A. B.	2249	10	10.00
Butman F. A. B.	2250	10	10.00
Butman F. A. B.	2251	10	10.00
Butman F. A. B.	2252	10	10.00
Butman F. A. B.	2253	10	10.00
Butman F. A. B.	2254	10	10.00
Butman F. A. B.	2255	10	10.00
Butman F. A. B.	2256	10	10.00
Butman F. A. B.	2257	10	10.00
Butman F. A. B.	2258	10	10.00
Butman F. A. B.	2259	10	10.00
Butman F. A. B.	2260	10	10.00
Butman F. A. B.	2261	10	10.00
Butman F. A. B.	2262	10	10.00
Butman F. A. B.	2263	10	10.00
Butman F. A. B.	2264	10	10.00
Butman F. A. B.	2265	10	10.00
Butman F. A. B.	2266	10	10.00
Butman F. A. B.	2267	10	10.00
Butman F. A. B.	2268	10	10.00
Butman F. A. B.	2269	10	10.00
Butman F. A. B.	2270	10	10.00
Butman F. A. B.	2271	10	10.00
Butman F. A. B.	2272	10	10.00
Butman F. A. B.	2273	10	10.00
Butman F. A. B.	2274	10	10.00
Butman F. A. B.	2275	10	10.00
Butman F. A. B.	2276	10	10.00
Butman F. A. B.	2277	10	10.00
Butman F. A. B.	2278	10	10.00
Butman F. A. B.	2279	10	10.00
Butman F. A. B.	2280	10	10.00
Butman F. A. B.	2281	10	10.00
Butman F. A. B.	2282	10	10.00
Butman F. A. B.	2283	10	10.00
Butman F. A. B.	2284	10	10.00
Butman F. A. B.	2285	10	10.00
Butman F. A. B.	2286	10	10.00
Butman F. A. B.	2287	10	10.00
Butman F. A. B.	2288	10	10.00
Butman F. A. B.	2289	10	10.00
Butman F. A. B.	2290	10	10.00
Butman F. A. B.	2291	10	10.00
Butman F. A. B.	2292	10	10.00
Butman F. A. B.	2293	10	10.00
Butman F. A. B.	2294	10	10.00
Butman F. A. B.	2295	10	10.00
Butman F. A. B.	2296	10	10.00
Butman F. A. B.	2297	10	10.00
Butman F. A. B.	2298	10	10.00
Butman F. A. B.	2299	10	10.00
Butman F. A. B.	2300	10	10.00

And in accordance with law, and an order of the Board of Trustees, made on the third day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesrooms of Maurice Dore & Co., on Tuesday, the second day of October, 1886, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. HEYWOOD, Secretary.
Office, 311 Market street, San Francisco, Cal. se15

Mina Rica de las Flores Mining and Mill Company, Camp Flores, near West Point, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of August, 1886, an assessment (No. 13) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, S. Dickinson, at the office of the Company, No. 423 Washington street, Room No. 13, up stairs, San Francisco, Cal., between the hours of 11 A. M. and 1 P. M.

Any stock upon which said assessment shall remain unpaid on the second day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. DICKINSON, Secretary.
Office, 423 Washington street, San Francisco, Cal. au25-5t

Nuestra Señora de Guadalupe Silver Mining Company, Tayoltita District, Durango, Mexico.

Notice is hereby given that at a meeting of the Board of Trustees of said Company held on the twenty-fifth day of June, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, at the office, No. 210 Post street, or to the Treasurer, A. Himmelfarb, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirty-first day of October, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.
Office, 210 Post street, San Francisco, Cal.

N. B.—The above is assessment No. 24, levied on June twenty-fifth, 1886, and now re-advertised, in accordance with an order of the Board of Trustees, at a meeting held on the thirtieth day of August, 1886. The omission to comply with the order of the Board of Trustees, in the first order, occurred by delay in order to receive news from interested parties in New York.

San Francisco, August 30th, 1886. se1

Names.	No. Certificate.	No. Shares.	Amount.
Langley Wm A.	2565	10	10.00
Langley Wm A.	2566	10	10.00
Langenberg J.	2591	25	25.00
Langenberg J.	2592	25	25.00
Langsbaumer J.	3153	40	40.00
Locan F. G.	3130	20	20.00
Locan F. G.	3131	20	20.00
Lewi-on L.	3104	20	20.00
Lewi-on L.	3122	21	21.00
Lewi-on L.	3124	24	24.00
Lewi-on L.	3147	10	10.00
Malton John, Trustee.	3123	5	5.00
Malton John, Trustee.	3085	10	10.00
Moore J. R.	2600	10	10.00
Moore J. R.	2611	10	10.00
Moore J. R.	2612	10	10.00
Moore J. R.	2613	10	10.00
Moore J. R.	2614	10	10.00
Moore J. R.	2615	10	10.00
Moore J. R.	2616	10	10.00
Moore J. R.	2617	10	10.00
Moore J. R.	2618	10	10.00
Moore C. A.	2626	30	30.00
Mulford T. W.	2653	20	20.00
Mosser Wm.	2566	20	20.00
McMahon T. F.	2581	20	20.00
Mayer S.	3032	20	20.00
Mayer S.	3033	20	20.00
Mayer S.	3034	15	15.00
Mayer S.	3035	10	10.00
Milburn John, Trustee.	3066	10	10.00
Milburn John, Trustee.	3072	10	10.00
Milburn John, Trustee.	3123	3	3.00
Parl-h J. W.	2591	5	5.00
Perry John, Jr.	2381	10	10.00
Pechy J. T. P.	2393	50	50.00
Prayne H. G.	3162	50	50.00
Prayne H. G.	3167	50	50.00
Prayne H. G.	3168	110	110.00
Page Nathl.	3170	10	10.00
Parmelee C. E. Trustee.	3161	50	50.00
Parmelee, G. E. Trustee.	3176	50	50.00
Parmelee G. E. Trustee.	3177	60	60.00
Parmelee G. E. Trustee.	3178	50	50.00
Parmelee G. E. Trustee.	3179	60	60.00
Parmelee G. E. Trustee.	3180	50	50.00
Parmelee G. E. Trustee.	3181	75	75.00
Roussett Paul.	2594	10	2.00
Smith E. H.	3050	2	2.00
Sparks Z. W.	2982	35	35.00
Smith G. O.	3074	20	20.00
Smith G. O.	3075	20	20.00
Smith G. O.	3076	20	20.00
Smith G. O.	3078	10	10.00
Smith G. O.	3079	10	10.00
Smith G. O.	3080	10	10.00
Sehenek C.	3123	2	2.00
Sehenek C. Trustee.	3119	20	20.00
Sehenek C. Trustee.	3169	25	25.00
Sajons D. E. Trustee.	3149	10	10.00
Schmitt C. A.	3169	8	8.00
Schmitt C. A.	3162	4	4.00
Strahan J. G.	3171	10	20.00
Taylor J. G.	2986	10	10.00
Taylor Thos G.	2907	20	20.00
Taylor Thos G.	2908	20	20.00
Taylor Thos G.	2909	10	10.00
Tilden Joseph.	2919	20	20.00
Tricon Henry, Trustee.	3087	40	40.00
Wolf F.	3050	5	5.00
Wolf F.	3115	10	10.00
Wolf F.	3142	10	10.00
Wade Wm M.	3038	12	12.00
Washburn E. H.	3155	50	50.00
Washburn E. H.	3156	100	100.00
Washburn E. H. Trustee.	3172	100	100.00
Washburn E. H. Trustee.	3173	100	100.00
Washburn E. H. Trustee.	3174	100	100.00
Washburn E. H. Trustee.	3174	75	75.00

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Müller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes; and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been bruised. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

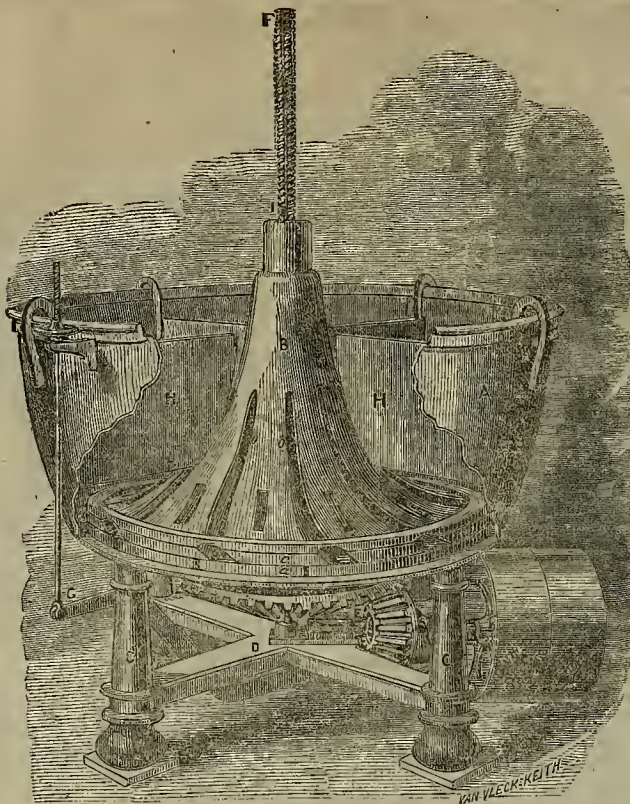
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works.

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

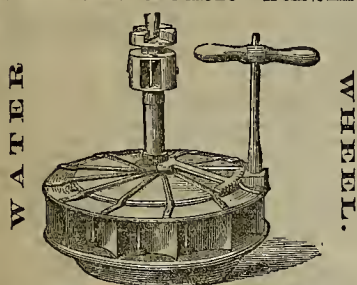
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the

PACIFIC FOUNDRY,
San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unexcelled sale of any water-wheel ever made, and which has given universal satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 600 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to

KNAPP & GRANT,
San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by

KNAPP & GRANT,
San Francisco.

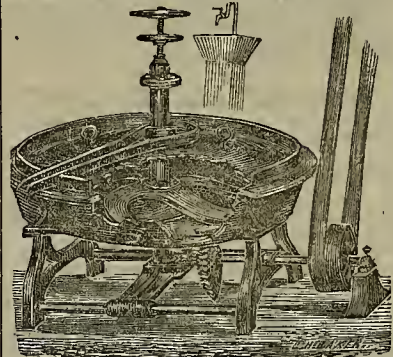
PAGE'S PATENT FOR RAISING SUNKEN VESSELS!

SHIPPING AND INSURANCE COMPANIES, and other parties upon this Coast or in the Atlantic States, having occasion to avail themselves of this invention, which has been tried and proved a success, will please address, for the present, JOSEPH DEVIN & CO., San Francisco, or at the office of the MINING AND SCIENTIFIC PRESS, 8v13

AUSTIN Z. PAGE, Patentee.

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and its execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for Book and Pamphlet Printing entrusted to the Mining and Scientific Press Job Office.

BAUX & GUIOD'S Separator & Amalgamator



Is the most important improvement in mining machinery ever introduced. It was awarded the FIRST PREMIUM at the San Francisco Mechanics' Fair for 1884, where it proved itself to be the best Separator and Amalgamator among all the competitors. Constructed on principles which combine Scientific Knowledge with Practical Experience, these Pans extract more gold and silver from their ores than any others in use, as a few hours trial will demonstrate. Mill men will find it to their advantage to employ these pans as Separators, in addition to the ordinary Amalgamators now in use, and to re-work their old tailings.

The cost of these pans is inconsiderable, and their structure is such that they can be readily separated in parts convenient for packing on mules. Among the many advantages possessed by Baux & Guiod's Pan are the following: The trifling cost for attendance; its small cost; its portability; The large quantity of pulp it can operate upon in a given time; It may be worked even weeks without stopping, as it is constructed to work continuously; The complete thoroughness of the separation of the rock from the metals and the trifling power required to work them; They can be attached to any ordinary crushing apparatus.

We have the pleasure of referring parties interested to the following parties, who have our Pan in use: Jeffersonian Mining Company, Bowman's Ranch, Nevada county; The French Mill, Nevada City; Grail's Gravel Cement Works, Nevada county; Waltham's Chlorination Works, Nevada; Gold Hill Quartz Mill, Washoe.

Manufactured at the Vulcan Iron Works and San Francisco Foundry, San Francisco, and at Hugh & Thom's Foundry, Nevada City.

For further particulars, or to see this Pan in operation, call on or address

J. B. BAUX,
Fremont Street, near Mission, adjoining the San Francisco Iron Works, San Francisco. 4v3-6d

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE

ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent,

At Job M. SEAMAN & CO'S, 631 WASHINGTON STREET,
San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the Mining and Scientific Press.

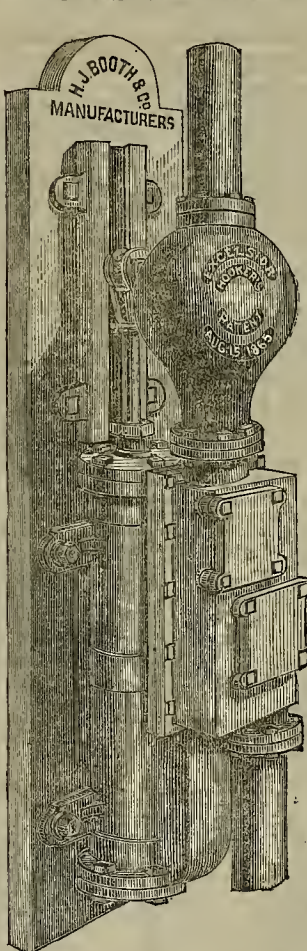
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To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS,
San Francisco, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground.

19v12

EXCELSIOR PUMP!



HOOKER'S PATENT!

CHALLENGES COMPETITION!

THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION, for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns and is pronounced THE BEST; also, from some of the best miners in the State who have them in use. For manufacturers, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITAN & CO.,

General Agents,
120 Front street, San Francisco.

2v13 3m

Send for Price List.

STODDARD'S

CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER, OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by

S. B. STODDARD,
Corner of Battery and Pacific streets,

2v12 3m

June 23, 1885.

Union Amalgamator.

This Valuable Invention

ITS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention.

15v12 3m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which

GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

19v12 416 Market street, San Francisco.

Kerosene and Gas Stoves.

TEA AND COFFEE BOILERS, GLUE POTS, OIL CANS, etc., etc.

Any all the Cooking for a

family may be done with

Kerosene Oil or Gas, with

less trouble, and at less

expense, than by any other

or fuel.

Each Article manufactured by this Company is guaranteed to perform all that is claimed for it.

Send for Circular.

LIBERAL DISCOUNT TO THE TRADE.

KEROSENE LAMP HEATER COMPANY,

206 Pearl Street, New York. 6v13-2m

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN

store and for sale by

THOMAS H. SELBY & CO.,

2v12 3m Nos. 116 and 118 California street

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 250 feet fall. One to three-ply Hose made. All orders punctually attended to.

S. HOWARD,
326 Davis street, San Francisco.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDARD'S IRON WORKS,

114 Beale Street, San Francisco.

2v12 3m

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery

OF ALL KINDS

Special attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. F. Low,
C. T. Meader, Stockton;

Jacob Underhill & Co., San Francisco;

J. W. Shaw, Russell & Erwin Manufacturing Company;

Office, No. 120 Front street, San Francisco. 4v12

Economy in Advertising.—The MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than ONE HALF the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

ARTIFICIAL GAS COAL.—Experiments have recently been made at Glasgow, Scotland, in forming an artificial gas coal for the use of the gas companies of that city. The novelty consists in merely mixing the fine waste coal of the mine with the heavy oil and waste viscid mass derived from the manufacture of petroleum. The result obtained is a combined material, one part deficient and the other rich in carbon, just the conditions desirable. The cost of the ordinary gas coal is 30s. per ton, with a yield of 9,000 cubic feet of gas. The cost of the new material is 20s. per ton, with a yield of 16,000 cubic feet, fully equal in illuminating power to the other. The resulting coke from the natural coal is sold at 5s. per ton for household purposes; while the coke from the artificial coal is in demand at 20s. per ton for foundry purposes. Thus, every element in the operation appears to range on the side of economy. The results are spoken of as likely to prove of incalculable value to both the gas companies and the crude oil manufacturers.

THE AGRICULTURAL COLLEGE.—On the 7th inst., the State Board of Directors, presided over by Gov. Low, met at the Occidental Hotel in San Francisco, for the purpose of opening and examining the bids of the different counties for the location of the same. Two bids were received from Santa Clara county, as well as proposals from Alameda and Sacramento. Before a decision is made in the matter the Board will personally visit the locations offered. The Board meets for this purpose on the 15th of October.

THAT very innocent and much abused animal, the toad, is at length beginning to be appreciated. It is now becoming generally known that it is one of the best protectors the farmer and gardener can possibly have against the depredations of insects. Their claims to life, liberty and the pursuit of bugs, are fast being recognized in England, and large numbers are being exported from France to supply the rapidly increasing demand. Once on British soil, they are retailed at the rate of \$1.50 per dozen.

TABOOSH.—The Sacramento Union has recently sent a small sack of taboose, an article never before exhibited in that city. Taboose is a small nut or root about the size of a pea, which grows on the eastern slope south of Aurora, and tastes very much like a chestnut. It grows in strings a foot or foot and a half long, and is extensively dug and eaten by Indians. A small portion of this seed will probably be furnished the State Agricultural Society.

COPPER WORKS.—From the report of the eight census it appears there are seven establishments in the United States for copper rolling. These establishments employ 413 hands, and have a capital invested of \$2,470,000. The cost of material consumed by them is valued at \$2,557,000, the cost of labor at \$157,050, and the annual value of products for the year ending June 1st, \$3,196,788, of which Pittsburgh gave one fifth.

Auction House.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 418 Montgomery street—very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.

STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS,

ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the MINING AND SCIENTIFIC PRESS.

BROWN & BEADLE,

Offer their services to

INVENTORS AND THEIR ASSIGNEES,

PATENT SOLICITORS.

They will make Preliminary Examinations in the Patent Office, with a view to ascertain the Patentability of any invention that may be submitted to them for that purpose; will prepare the necessary papers for those who wish to make Applications for

Patents for their Inventions,

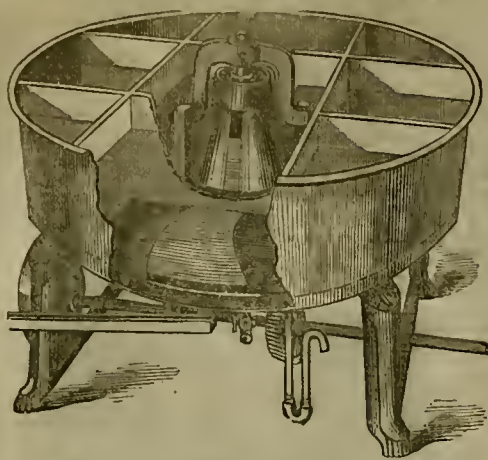
—OR FOR—

EXTENSIONS OR REISSUES OF PATENTS

Already granted; will act as Attorneys in presenting Applications at the Patent Office, and in managing them to the condition of Rejected Applications when desired to do so, and undertake the prosecution of such as may be considered patentable, and do whatever else is usually done by Patent Solicitors.

Address, P. O. Box 257, Washington, D. C. 7v12-3m

Knox's Improved Patent Amalgamator and Separator, With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of

14v13-pl2q

At the Golden State Iron Works, No. 19 First street, San Francisco.

CAUTION!

NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1881, and issued June 27th, 1883, to Professor HENRY WURTZ, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY,
OF NEW YORK,

Assignees of letters patent granted to Prof. HENRY WURTZ, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.

The terms and conditions upon which rights to use the process are obtainable, can be had on application to
WM. SLOSSON,
Agent of the Company, Union Iron Works, corner of First and Mission streets, San Francisco. 5v13

NEW YORK PRICES.

C. E. COLLINS,
No. 603 Montgomery street, San Francisco.
EXCLUSIVE AGENT
FOR THE
AMERICAN
WATCH FACTORY.
A large assortment of these
Superior Watches,
In Gold and Silver Cases,
Constantly on hand, and sold at Factory prices. Also,
ENGLISH AND SWISS WATCHES,
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3d. The "shaking" motion given to the pulp (by the revolution of the mill under the stationary frame) against the amalgamated copper plates that are fastened to the frame, and by this means catching the fine gold and mercury that will not settle.

4th. The gate in the cone, through which the pulp is discharged, from the top, and where there is the least motion, almost precluding the possibility of any granulated mercury or fine gold escaping.

There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

ISRAEL W. KNOX, or
W. A. PALMER, Inventors,

ANNUAL REPORT

Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "AN Act concerning Corporations," passed April 22, 1880, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD.....\$750,000
II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY SEVEN CENTS, \$1,051,420.37
III.—The Company has NO DEBTS.
IV.—The amount of insurance effected during the year, and which remained in force December 31, 1881:
Fire.....\$12,975,949
Marine.....481,403
This Company commenced underwriting Marine Risks, August 1, 1880.
V.—This Company insures against the following risks, viz: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLD, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.
Also, on CARGOES, TREASURES, COMMISSIONS, PROFITS, AND WARE HOUSES, ON ALL MARINE AND LAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.
VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.
J. HUNT, President.
A. J. RALSTON, Secretary.

San Francisco, January 19, 1882.
Louis McLane, Edward Martin, A. Hayward,
W. O. Easton, Chas. Mayne, T. L. Barker,
A. L. Tubbs, Moses Ellis, Alex. Well,
William Alvord, E. L. Goldstein, C. Meyer,
Frederick Billings, Wm. T. Coleman, J. D. Fry,
Jonathan Hunt, John O. Earl, M. Rosenbaum,
A. E. Forbes, Lloyd Lewis, H. B. Higdon,
Anson G. Siles, Geo. W. Beaver, T. Lemmon Meyer,
Abm. Seligman, Adam Grant, Sacramento,
L. B. Beechey, Alpheus Bull, Edner Mills,
Wm. Sherman, S. H. Wilson, G. W. Howe,
L. Scales, D. J. Oliver, C. T. Wheeler,
Jas. De Fremery, William Scholle, Marysville,
John G. Bray, Morton Cheeseman, J. H. Jewett,
David Stern, H. Hansmann, Stockton,
D. O. Mills, D. W. C. Rice, Portland, Oregon,
E. W. Kellogg, E. W. Leonard, W. L. Egan,
G. H. Howard, S. Steinhart, Jacob Kanin,
Moses Heller, P. L. Weaver, Virginia, Nevada,
H. M. Newhall, Wm. Hooper, Wm. Sharon,
G. T. Lawton, Alfred Borel,

State of California, City and County of San Francisco, ss.
On this nineteenth day of January, A. D. one thousand eight hundred and eighty-two, personally appeared before me, H. S. HOMANS, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. RALSTON, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.
Sworn and subscribed to before me, this 19th day of January, A. D. 1882.
H. S. HOMANS, Notary Public.
5v13-11

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Brodie's Patented Improvements FOR THE TREATMENT OF Gold and Silver Ores.

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No. 3.—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour.....1,200

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics Institute in San Francisco, in 1881. Further particulars will be applied on application to the subscribers.

The inventor of the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st of November, 1882, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1880.

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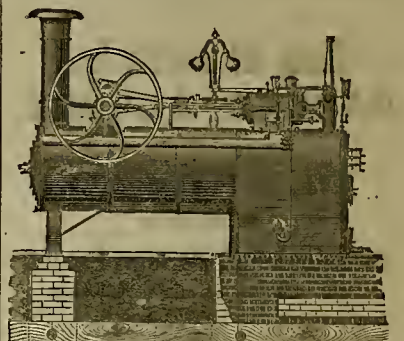
"Hoadley's" and "Hittinger's" Make,



HOADLEY'S.

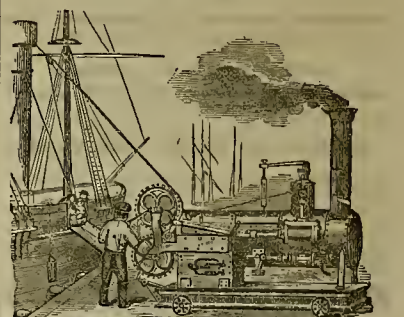
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

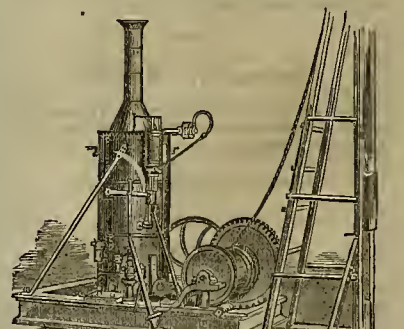
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power



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CRALL'S WALTZING PAN.—We learn by letter from Mr. Crall, that the negotiations between the proprietors of Crall's Waltzing Pan and the Hadsbrow Planetary Pan, which we last week supposed were consummated, have failed of that end. The principle on which the waltzing and planetary pans operate appear to be the same in some respects; but we understand that the proprietors of the former intend to make certain alterations and improvements in *their* pan, so as not to interfere with the latter; after which they will proceed actively in their manufacture and introduction into the mines.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents. Address, DEWEY & CO., Patent Agents. San Francisco, May 1st, 1866.

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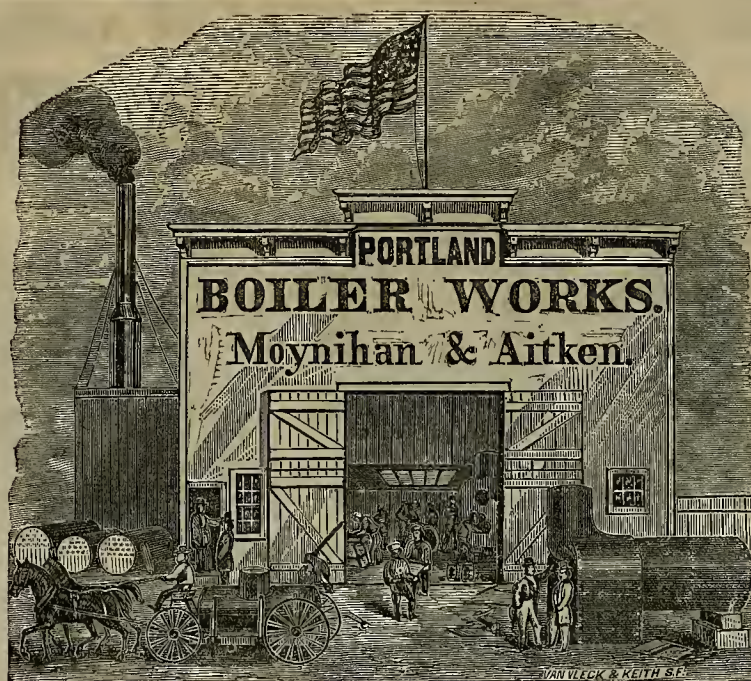
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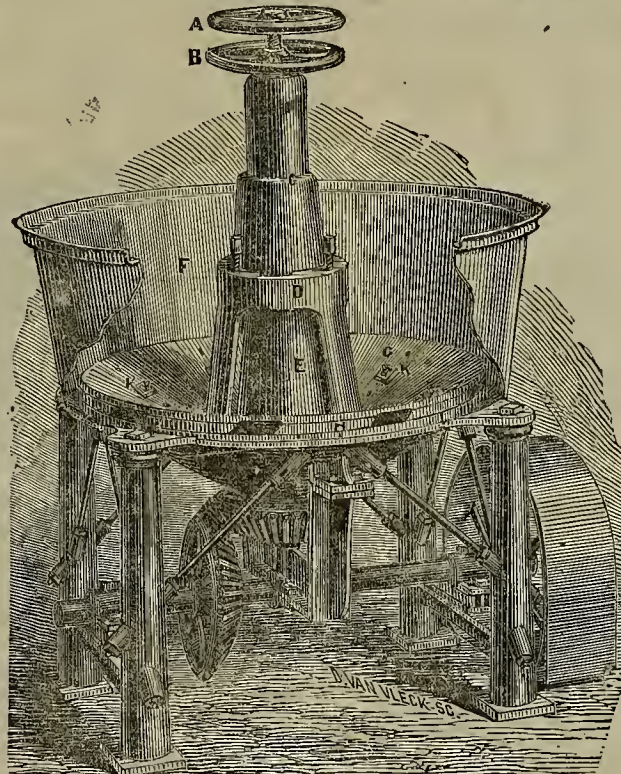
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OPHIR.....	Washoe City, "	HUGHES & FORKMAN.....	Silver City, "
EDWARD McLEAN.....	Silver City, "	YELLOW JACKET.....	Empire City, "
SANTIAGO.....	Zenith Flat, "	BELDON & GREGORY.....	Esmeralda, "
RAFAEL & HUSTED.....	Gold Hill, "	HECKENDORN.....	Calaveras Co., Cal.
FRENCH & BESLER.....	Dayton, "	CARSON GREEK.....	Calaveras Co., "
HERMAN, KETSCHER & CO.....	Carson River, "	IDA MINE.....	Owens River, "
A. SUTRO.....	Dayton, "	BIG BLUE LEAD.....	Tulare Co., "
DAVIS & BARRON.....	Carson City, "	E. T. STEEN.....	Amador Co., "
PHENIX.....	Silver City, "	EAGLE.....	Amador Co., "
CHAS. S. COUVER.....	Silver City, "	IDA MINE.....	Owens River, "
PIONEER.....	Silver City, "	ALACRAN.....	Sonora, Mexico.
L. A. BOOTH & CO.....	Virginia City, "	SANTA CLARA.....	Sonora, "
A. DELAND.....	Washoe, "	ROSARIO & CARMAN.....	Sonora, "
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We have lately associated with us in the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner. DEWEY & CO., Patent Solicitors. San Francisco, June, 1866.

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ESTABLISHED [] MAY, 1860.

VOLUME THIRTEEN

— OF THE —

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SAN FRANCISCO, SATURDAY, OCTOBER 6, 1866.

VOLUME XIII.
Number 11.

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OUR NEW YORK AGENCY.

Mr. Geo. M. Newton is our authorized agent in New York City, and will receive advertisements and subscriptions for the Mining and Scientific Press at regular rates. Sample copies of our weekly and monthly issues can be procured by calling upon him, at the office of the "Stockholder," No. 72 William street.

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three months delay requisite in transacting business through Eastern agencies.

[Reported for the Mining and Scientific Press.]

California Academy of Natural Sciences.

REGULAR MEETING, Monday, Oct. 1, 1866.

President in the Chair.

Fourteen members present.

Minutes of previous meeting read and approved.

Messrs. Winslow Boynton and T. C. Leonard were elected resident members.

Mr. Albert L. Bancroft was nominated for resident membership.

Donations to Cabinet: Specimen of black oxyd of manganese from Red Rock, San Francisco Bay, presented by Mr. Stearns; fossils from the banks of the Nauaimo river, also fossils from Prospect Island, opposite the town of Nanaimo, presented by Dr. P. Comrie, of H. B. M. ship Sparrowhawk.

Donations to Library: Seven volumes of the publications of the Smithsonian Institute, presented by Samuel Huhhard.

Royal Fisk sent in his resignation as a member of the Academy.

Dr. Behr made some remarks upon the *Lepidoptera* and the four different stages of their development, noticing the fact that the length of time of the egg state in some species, for instance, the Chinese silk-worm, admitting of the transportation of the same to foreign countries, while in the California silk-worm the *Saturnia ceanothi*, the period of the egg state is so brief as to render it impossible to transport the eggs either to New York or Europe. Dr. Behr also explained the difference between the larva state in the *Lepidoptera* and other classes of insects and referred to the importance of the larva condition in insects, as a basis for classification, and mentioned many interesting proofs of the tenacity of life during the *crysalis* or *pupa* state; alluding to the different classes of Moths in which wingless females occur, a peculiarity that is unknown to the butterflies.

Mr. Bolander stated that in a paper laid before the Academy some time ago, he had maintained that there was but one species of live oak in the valleys of California; he now wished to correct that statement, as he felt satisfied the species described by Dr. Englemann as *Quercus wislizeni* was a good species of the live oak.

Mr. Bolander further remarked the distribution of many species of California forest trees, and many interesting geographical and geological facts in connection with many species of the trees of this State, especially the *pinus* and *Sequoia*. Adjourned.

T. H. BLOOMER, Secretary.

READ the advertisement of the Family Medicine Chest. Such a thing has long been needed. The wisdom of providing the house with this chest is obvious to all. These chests can be obtained at the lowest rates by addressing this office.

WRIGHT'S DIRECT ACTION STEAM STAMPING MILL.

Mr. William Wright, superintendent of the New York Steam Engine Works, recently devised and applied for a patent for a steam

trough, A, cast in the bed plate of the mill. The ore to be crushed is fed in through a hopper, M, and so distributed equally to all, and as fast as it is pulverized finely enough, it is delivered on all sides through the screen into

fitted to screw-threads on the said pillars, for the purpose of adjusting the clearance between the pistons and the top and bottom of the cylinder, and for maintaining a uniform clearance by lowering the cylinders as the stamps wear

away, and allow the pistons to descend lower. The steam acts above and below the pistons, so that it not only lifts the stamps, but the force of its downward pressure on the piston is added to that due to the weight and fall of the stamps.

Each cylinder has an independent valve and automatic valve-gear, so that each piston and stamp may work independently of all the others. The valves are short double-faced slides, working horizontally in the chests, H, and operated partly by the steam and partly by conical surfaces on the upper parts of the piston and stamp-rods, which pass upward beyond the tops of the steam cylinders into closed central caps, J, J, on the cylinder covers. The conical parts of the rods act upon the valves through levers I, I, and attached slides. This method of operating the valves permits the stamps and pistons to turn freely as required.

The cylinders are 5½ inches diameter, and the pistons have from six to eight inches stroke, according to the depth of material in the battery. The machine is estimated at about 30-horse power, and the inventor claims that it will crush thirty tons of ore in twenty-four hours.

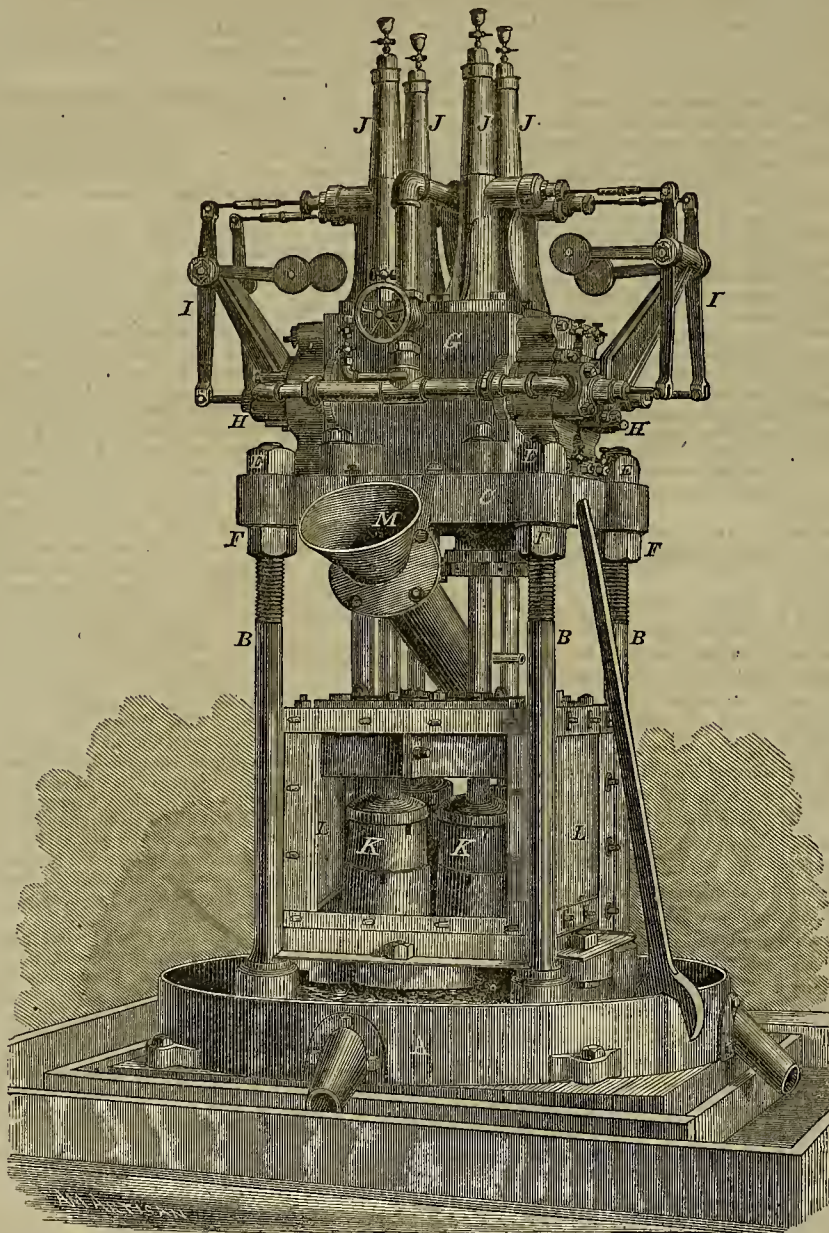
These mills are built at the New York Steam Engine Works, East Twenty-third street, New York, and were first illustrated and described in the New York *Artisan* of July 4th, 1866.

We have reproduced the illustration, in order that our readers may be kept posted as to the improvements, alleged or real, which are being made in quartz machinery on the Atlantic side of the continent.

RETURNED.—Gen. McDowell and party have returned from their tour of military inspection from across the Sierras, by way of the Visalia route. We learn from Professor Blake, who was one of the party, that the General extended his tour of observation through and beyond the Mono Lake country, to near the borders of Pahrangat. He must have had a rough time

of it; but doubtless gathered much information which will be valuable to the government in its future military operations in that quarter. We presume that the scientific observations of the Professor will not be without their value in the same direction, as well as to the cause of science in general.

A FIELD OF WHEAT buried under an avalanche in Switzerland for twenty-five years, is said to have proceeded on its growth as soon as the snow melted.



WRIGHT'S DIRECT ACTION STEAM STAMPING MILL.

stamping mill for crushing ores and other material, in which the stamps are operated by the direct action of the steam, by the stamp-lifters being connected, each with a steam piston working in its own cylinder. An illustration of this machine is given herewith:

The stamps, K, K, which are attached directly to steam piston rods, are arranged in a group four in number, and surrounded by a screen, L, the front of which is omitted to expose the stamps to view. The battery in which the stamps work is surrounded by a

trough, A. The stamping is done wet, and the very finest portion of the powder is washed over from the trough, A, by the overflow of water through spouts into an outer surrounding trough or gutter.

There is a separate steam cylinder and piston for each stamp. The cylinders are all cast together with a surrounding exhaust steam-jacket, G, and sole plate, C, and are supported on wrought-iron pillars, B, B, erected upon the bed-plate, A; and all the cylinders can be adjusted simultaneously by means of nuts, E, F,

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

Notes on the Chief Gold Districts Throughout the World.

BY PROFESSOR ROWLANDSON, F. G. S. L.

(Continued from Page 173.)

AMERICA.

I have deferred the consideration of the gold fields of this Western Continent until a sketch had been drawn of those found in other parts of the world. I commence with those of

CANADA AND NOVA SCOTIA.

Gold has been found in Western and Upper Canada. About fourteen years ago, considerable hopes were entertained that certain districts in the Canadas would prove highly auriferous. Somewhere about \$3,000 worth was transmitted to the Colonial office, and was shown to the writer by the late Sir Henry de la Beche. It was what would be called coarse placer gold, the size running from that of small spangles or lentils, to that of large-sized peas or small horse-beans. It was of a dull copper color and rough exterior, greatly resembling the gold usually found in placers which had been formed by the disintegration of adjoining granitic rocks, and consequently under not greatly different conditions to that which was usually found to occur in the subsequently discovered gold fields in the adjoining provinces of Nova Scotia.

THE UNITED STATES—OHIO.

Professor Richardson, of New York, a few months ago, in a private letter, referred to some placer gold fields which have been recently discovered in Ohio; an extract of the communication, containing the particulars thereof, has already appeared in the Press. Judging from the details there given, it is highly probable that the geological features connected with the Ohio gold field bear a considerable resemblance to those associated with the Canadian and Nova Scotia placers.

VIRGINIA, GEORGIA, NORTH AND SOUTH CAROLINA.

The consideration of the conditions under which gold is found in the above-named four States bordering on the Atlantic, may conveniently be taken together. When thoroughly examined, it is very probable that the geological circumstances under which gold is found in those States, will not greatly vary from those associated with the country extending from the western slope of the Rocky Mountains to the Pacific, interesting differences, both in an economic, as also in a scientific point of view, will doubtless be discovered; but the chief geological accompaniments, which will be found on both sides of the great dividing ridge alluded to, so far as the United States is concerned, will probably, on future investigation, be found to agree; and further, that the date of the formation of the gold vein in both the Eastern and Western divisions, is not greatly dissimilar. Triassic, Cretaceous, and Tertiary rocks are found, as on the Pacific Coast, in each of the States named, and frequently not far distant from the gold fields situated in the different States alluded to. As, however, with gold and many other metallic-producing veins, the enclosing rocks are there also highly metamorphosed and occasionally crystalline, so much so that it is very difficult or quite impossible to discover their age from fossil evidence. The following interesting fact, which, however, is now pointed out more with the object of inducing local geologists to carefully examine the matter, rather than for the purpose of drawing any special inference therefrom in the present paper, may probably, when fully inquired into, elucidate many points of great interest: Bituminous coal of good quality occurs in Virginia, the shales of which are found in direct contact with granite and gneiss. It is impossible that such a circumstance could occur, unless the granite, etc., had been formed prior to the deposition of the incumbent coal. The interesting problem which it is desirable should be solved, is this: Was the chief, or any of the gold veins found in

the surrounding region, formed at the same time and by the same agency as the inferior granitic rock, and prior to the formation of the overlying coal? The writer is induced to believe that when this question has undergone a careful examination on the spot, by competent parties, it will be found that the gold veins found in the States now under consideration, were formed subsequent to the sub-carboniferous granite—probably post-Cretaceous, or even tertiary; with a strong probability that many of the veins, especially those found near the junction of the two Carolinas, are enclosed by rocks belonging to one or both of the latter named formations; whilst in Virginia it is not improbable that much of the gold-bearing districts will be found composed of carboniferous rocks, as is the case with portions of California and parts of Nevada. The association of gold with copper ore, so prevalent in North Carolina, together with other circumstances connected therewith, bear a strong analogy to many similar cases in

COLORADO, IDAHO, MONTANA, ETC.

As yet we know very little of the geological associations of gold and silver veins in the districts named in the above sub-heading. Unless, however, these circumstances vary greatly from the geological features generally found connected with the Rocky Mountains, so far as it has hitherto been explored, there can scarcely admit of a doubt but the general strata of this central portion of the United States consists of rocks at least as recent as the Cretaceous period. The specimens of gold and silver ores which have reached us from these Territories, appear chiefly to consist of mixed sulphurets and oxyd of lead, copper, antimony, iron and silver, in all varieties of proportion; generally, also, containing gold and occasionally metallic silver. When composed only of oxyds and sulphides of copper, with silver and gold, the ores are susceptible of economic and successful treatment; when, however, the same are intermixed with galena and antimony, the extraction of the precious metals becomes much more difficult, and can only be profitably accomplished, with average ores, under the supervision of a thoroughly experienced metallurgist. A large part of the cupriferous ore containing the precious metals, not only of these districts, but also of North Carolina, would not be difficult to handle by an able expert.

(Written for the Mining and Scientific Press.)

Sodium Amalgam—Reply to Prof. Wurtz.

MESSEURS. EDITORS:—In your MINING AND SCIENTIFIC PRESS of September 29th, 1866, I find a paper on the "Utilization of Sodium in Gold and Silver Amalgamation," read by Prof. Wurtz before the American Association for the advancement of Science, at Buffalo, in which "some objections are considered," whereby Mr. Wurtz, with a sort of self-confidence, accuses me of errors, fallacies and non-concurrence in opinion with other Californians experienced in amalgamation.

Mr. Wurtz says: "Kustel has erred mainly in supposing that the purpose of the sodium amalgam was to decompose silver ores by extracting their sulphur by sheer force of chemical affinity."

This chemical action by which the sodium decomposes silver ores, is the only fact which can be proven as being effective in the treatment of such ores. Whenever sodium amalgam comes into contact with silver sulphides, chlorides, tellurides, etc., the sulphur chlorine, tellurium, which is set free, is found immediately combined with the sodium in the solution, and only an equivalent quantity of silver is amalgamated—no more. Is this no chemical action? What does it matter whether this chemical action is purely a chemical one, or whether it is combined with an action which "appears" to be in a manner electric, if there is no more silver reduced than what was freed by action of chemical affinity? What practical use can be derived from that point of view which Prof. Wurtz assumes? The "highly electro-positive condition of the quicksilver" is certainly a most interesting scientific topic; but the adoption of this theory does not change the practical result of using sodium amalgam on silver ores, of which only such combination can be reduced, perfectly, with a proportional quantity of sodium, as are free of antimony; but this equivalent quantity is just the obsta-

cle which prevents the application of sodium, for two reasons:

First. On account of its being too expensive. Second. Because it causes a greater loss in quicksilver, by rendering the latter liable to be ground to flour, (if used on silver ores rich in sulphurets, in the required proportion, in iron pans.)

As to the ineffectiveness of the sole electric condition of the quicksilver; that can be illustrated by the barrel-amalgamation with common quicksilver. Here the galvanic action is produced by the positive iron and the negative quicksilver, between which the dissolved salts of the roasted ore serve as a conductor. This galvanic current assists greatly in the amalgamation of the silver; but if half of this charge should be unroasted ore, the quicksilver, although in an electric condition, does not effect the sulphurets in the least. Only the roasted ore being amalgamated, after it is reduced to a metallic state by chemical action.

Mr. Wurtz says further: "Kustel's experiments having been based upon an incorrect idea of the mode of action, have but little applicability *pro* or *con*, and inconsistencies were pointed out in his conclusions."

I cannot understand how experiments can be made upon an "idea" of the mode of action, which (that is, the mode of action), must be found out by the experiment before the idea can be formed. The conclusions which I based on experiments* did prove to be entirely correct; even the remark that *no saving* of quicksilver can be expected by the use of sodium amalgam in treating silver ores. In regard to the "inconsistencies," in plural, Professor Wurtz says:

"Kustel's conclusions that iron pans cannot be used with sodium, for instance, is shown to be fallacious by very numerous working results now on record; in any case, it is fortunate that one negative result has little weight against concurrent, positive results of many others."

When I said that "silver ores cannot be worked with sodium in iron pans," I did not mean the physical "cannot," but the pecuniary. If some people do use sodium on silver ores, without minding the result, they of course establish the fact that sodium amalgam can be used in pans. A most simple experiment, however, is sufficient to show the difference between an iron pan and a wooden or stone arastra; take a small quantity of sodium amalgam in an iron ladle or spoon (not coated with tin), and the same quantity of a like sodium amalgam in a wooden or stone vessel—both under water; it will be found that the sodium in the ladle will be used up in less than *one minute*; whilst that in the other vessel will continue for *half an hour*, and longer. The ladle appears amalgamated. If in this case some pulverized silver ore should have been introduced, together with the sodium amalgam, which of the vessels would prove unsuitable—the iron one, consuming this sodium in the shortest time, or the stone vessel, where all the sodium is left to act upon the ore? The result and common sense will answer. Mr. Wurtz says: "the rapid and perfect collection and separation from a slime or pulp of contained and diffused silver amalgam, by the use of sodium amalgam, would alone give it an obvious importance." This may be so; but although silver amalgam is not silver ore, the rapid and perfect collection from slimes cannot be executed in pans; it must be done in wooden barrels with a formidable amount of quicksilver in which some sodium is dissolved.

As to the one negative result against many concurrent positive ones, Mr. Wurtz would be differently impressed if he should visit the mills in Nevada, where silver ores are treated. Our millmen try everything, and use whatever is found economically practicable, in spite of negative writing; but the use of sodium does not seem to be applicable to the silver ores of Nevada, although it is used to some extent for the amalgamation of gold in the quartz mills of California. Where the "very numerous working results" were obtained, Prof. Wurtz did not state.

G. KUSTEL, M. E.

* See MINING AND SCIENTIFIC PRESS, Nov. 18th, 1865.

ENCOURAGEMENT TO MINING LITERATURE.—The Valenciennes (French) Society of Agricultural Arts and Sciences has announced its intention of annually awarding gold, silver and bronze medals to the writers of the best papers on coal mines and mining. The medals are to bear the effigy of Sir Humphrey Davy, the inventor of the safety lamp. It would be a good plan for some of our New York societies to offer rewards for original papers pertaining to mining.

AN ODD FISH.—Victor Hugo describes the "Devil Fish" as a monster resembling an umbrella without a handle, with innumerable radii stretching out to grasp everything within reach, with no blood, no bones, no flesh, absorbing its victims into its pouch. The description is not less truthful than graphic.

(Written for the Mining and Scientific Press.)

Important Mineral Development near Virginia City.

EDITORS PRESS:—As many of your readers are, doubtless, interested in the development of this State, and more particularly those mines in the immediate vicinity of the Comstock, a few remarks on a somewhat remarkable ledge running about two miles east, and nearly parallel with this famous lode, may not be altogether unacceptable.

The lode in question commences, *i. e.*, exhibits well defined croppings, at its southern extremity, at the Occidental mine, situated about one and a half miles southeast of Virginia City, on the new Dayton road, and runs north-easterly nearly parallel with the Comstock, as far as the Monte Christo mine, a little to the north of the Gould & Curry mill, a distance of between two and three miles.

During the last three years it has been opened on and partially worked at various points with uniformly encouraging results—the most prominent mines being the Monte Christo, St. John and Occidental; but it is only since the thorough development of the latter, by the spirited and unaided exertions of Messrs. Weston & Co., that the great value of this deposit has begun to be appreciated by the public—a pretty general prejudice existing here against mines, the matrix of whose vein matter is anything but quartz.

The matrix of the lode in the Occidental is crystallized carbonate of lime, at the southern extremity of the claim (of 1,800 feet), terminating in white quartz at the northern end. This quartz continues northward through the St. George claim into the adjoining St. Patrick, where it begins to show evidence of carbonate of lime, which increases in quantity as we approach the next claim, the St. John, where it presents precisely the same crystalline appearance as we find in the southern part of the Occidental. This carbonate of lime continues with occasional streaks of quartz, about a mile and a half further north, till we reach the Monte Christo, and probably much farther.

The following analysis, made by me on the 2d January, 1866, on a poor specimen of this ore, will give an idea of its mineralogical character:

Gold.....	0.0016
Silver.....	0.0250
Peroxide of Iron.....	1.6370
Peroxide of Manganese.....	0.2500
Alumina.....	0.1750
Carb. Lime.....	83.7240
Sulphur.....	0.0050
Chlorine.....	Traces.
Silica.....	13.2500
Loss.....	0.3324
Total.....	100.0000

The inferences to be drawn from this is, that the silver exists chiefly in the form of sulphide, with a small proportion of chloride—the gold being in the native condition, invisible, from the very fine state of division in which it is disseminated through the mineralized portion of the ore.

The general appearance of the ore is very similar to that of Copiapo in Chile, (with which I am acquainted, from a five years' residence as a public assayer in that country), and from which most of the Chile silver is obtained. It was this remarkable similarity which induced me to advise my friend, Mr. Weston, to persevere in the development of his mine, some nine months ago, when most of his Nevada friends were endeavoring to dissuade him from a further prosecution of the undertaking, assuring him that silver could not possibly be found in paying or lasting quantities in any other matrix but quartz. The result has proved the correctness of my views up to the present time; *i. e.*, within twelve months upwards of \$180,000 worth of bullion has been taken out of this one mine, yielding at the mills an average of about twenty dollars per ton—the average value of the bullion being about \$1.90 per ounce—*i. e.*, as near as possible the quality of that obtained from the Comstock ore.

In all probability the average yield will be much larger next year, as the ore appears to increase in richness as well as in quantity, as greater depth is reached. This is shown by the following assays made within the last few

weeks, on samples taken from the most recent workings:

Gold.....	\$ 5.02
Silver.....	50.27
	\$55.29 per ton.
Gold.....	\$12.54
Silver.....	78.54
	\$91.08 per ton.

Against those made in February last, viz.:

Gold.....	\$ 7.52
Silver.....	26.70
	\$34.22 per ton.
Gold.....	\$ 5.02
Silver.....	25.12
	\$30.22 per ton.

The lode itself varies from eight to fourteen feet in thickness, and carries pay ore from one foot to ten feet in width. This pay ore is distinguished from the barren portions of the vein by minute spots of black sulphide of silver with arborescent black oxyd of manganese, which latter is beautifully developed on the milk-white compact quartz at the northern extremity of the mine, in the form of ferns, similar, but more distinct, to those found in the casing of some portions of the Comstock lode.

The lode dips to the east at an angle of about 40°, and has well defined walls of a hard schistose-like altered porphyry, the rock consisting of that formation, of a greenish gray color, and much harder than the bluish variety found in the Comstock. The result is that although the mine has attained a depth of 350 feet, having been worked down from the croppings, no timbering has yet been required; and the dip corresponds very closely with the slope of the mountain, the mine can be worked by means of short tunnels to a depth of over a thousand feet, thereby avoiding the very heavy expense of hoisting and pumping works.

From the brilliant success which has attended the experiment of opening out the Occidental mine, it is to be hoped that other claims on this magnificent ledge, particularly the St. John and Monte Christo, will soon be put into vigorous operation, when we may expect this ledge will prove one of the richest and most enduring in the State, outside the Comstock.

W. T. RICKARD,
Fellow of the Chemical Society and late Member of the Council of the Geological Association of London.

Virginia, Nev., Sept. 19th.

[Written for the Mining and Scientific Press.]

From Sierra County.

BY AN INDEPENDENT CONTRIBUTOR.

[Continued from page 146.]

EDITORS MINING AND SCIENTIFIC PRESS:—The vein of the Sierra Buttes Copper company is traceable on its line of strike for about one mile by croppings and workings, and broken fragments strewn the side hills and beds of ravines through which it courses. The vein proper, as shown by workings, is twenty feet in width, carrying about six feet on the underlie of nearly pure pyritous copper with associate ores, while its upper portion is, to a considerable extent, metalliferous, and by stamp work and a good concentration, would afford a large percentage of ore of a high grade and good character.

From several assays made by Mr. R. A. Cochrane, of the massive pyritous ore near the foot wall on the surface, an average of 27½ per cent. copper, and forty-nine per cent. gold per ton, was obtained. With the depth, the ore increases in richness, and will average fifty per cent. The larger portion of the vein, fourteen feet, carries a bluish antimonial ore, from which, by assay, ten per cent. of copper was obtained, and \$147 in gold per ton. The gold, however, does not appear to be free, and ordinary amalgamation could be hardly expected to save it. The lode, which is of quartz, courses through a narrow belt of feldspathic granite east, 10° N., cutting through syenite, and entering a hornblende trap on the west, where all traces of it disappears.

An adit level is being driven from a ravine which courses with the vein, and is now a 100 feet, giving a hack of about forty feet. When it shall have reached the center of the ridge, a distance of about 1,000 feet, it will give a back of not far from 300 feet. The vein is found dipping to the northward at an angle of 42°; its underlie shows a well defined clay seam on foot wall, considerable water flowing from the vein.

The ravine from which the level is started affords a sufficiency of water for milling purposes for any desired number of stamps. The surrounding country is heavily timbered. A good wagon road can be built to the Henness Pass road at an inconsiderable expense. The ores, however, should be smelted on the ground, or reduced to a regulus before freighting, as

every requisite is at hand in abundance, and they are of that class (containing no refractory minerals), that a common blacksmith forgo is sufficient to reduce them to pure copper, which I have seen repeatedly done by the workmen at the mine.

Other veins lie parallel and adjacent; but as the one described is a type of the rest, they do not require a further description. I should have observed that the sulphuret of molybdenum and its ochre, is one of the associate ores of the vein. This rare mineral occurs in almost every vein that I have seen in this formation, which belongs to and is made up of igneous rock, having been apparently poured out from the interior of the earth from a series of fissures extending in a northerly and southerly direction for more than 600 miles, forming the main summit of the Sierra range. Since that time internal convulsions have occasioned other fissures at right angles with the formation, which have become filled by metalliferous veins, and known as true or fissure veins. This class of veins have been proven by mining experience to extend downward indefinitely. As regard their linear extent, however, they vary. As a whole they are much more reliable than the segregated cupriferous deposits occurring in the schistose formations. These often produce large amounts of ore, and are very productive for a time; but all mining history has proven that the mining interests have been most prosperous where the true fissure veins exist, and are the object of research.

October, 1866,

VIAJADOR.

[Written for the Mining and Scientific Press.]

Letter from Colorado Territory.

EDITORS MINING AND SCIENTIFIC PRESS:—Enclosed please find a small fragment of meteoric iron. It is from a large mass discovered near Mount Vernon, Colorado Territory, some months since, by Mr. J. L. Willson and R. G. Morrison. The mass is of an irregular flat oblong form, and will probably weigh some 700 to 800 pounds. It is coated quite thickly with oxyds, indicating that it has lain a long time by its present bed. When it fell, it lodged on a bare, solid ledge of gneiss, and by the concussion, one end of the mass was considerably shattered, and at the time of our visit to it, we were enabled to obtain several very good specimens, one of which weighs eleven pounds. The mass is composed principally of iron, nickel and cobalt, with a little copper and magnesia. The ingredients however, are not evenly distributed through the whole mass, as in some parts the iron and nickel are in about equal proportions, with a little cobalt—in other parts the iron is in great excess, and in still other portions the nickel and cobalt are the principal elements. I would like to send you a larger piece for your cabinet, but cannot very well do so by mail, and it is too far and too expensive to send by the overland express.

I also send you a bit of moss agate—small, for the above reason—but a fair sample of the average quality found here. They are found in the greatest abundance in some portions of Colorado, and many very fine gems are also found among them, some as fine as any found in any part of the world—the stone being in many cases perfectly clear and transparent, with the "moss" clearly defined, and in beautiful forms. Some of the stones have a slight pink tinge; others are a milky white and very clearly translucent. The moss is generally black, like the specimen enclosed, but is sometimes found brown and yellow, green and even white. The latter color, however, is generally very coarse and irregular, possessing not much beauty or value.

Associated with, or very near these moss agates, we find many specimens of fortification agate, onyx, chalcedony, jaspers of various colors, and occasionally very good specimens of blood-stones or heliotrope, are met with. The agates are principally found in fragments scattered over the surface of the ground, but I have in two instances found them in place.

Beside these we find here many fine amethysts, some of them very large, beautifully colored, and very brilliant. Milk opals, too, are quite plenty; but I never have observed

the noble opal, though it is said to exist in the southwestern portion of the Territory. Tourmaline, amethyst, precious garnets, rock crystal, false topaz, aventurine, etc., are frequently met with.

THE MINING BUSINESS OF THE TERRITORY

Generally, is on the increase. There are now more stamp mills running than at any previous time since '62, and they are generally doing well. There are also three Keith desulphurizing furnaces running, with very good success. Lyon's smelting works are running regularly, too; and judging from the fact that they are buying all the galena ores that they can get, at \$50 per ton for such as will dress 75 per cent. galena, they must be doing very well. There are, besides, several smelting establishments in operation and in process of erection at the Georgetown and Snake River mines. Some of these mines are very rich in silver, with but very little gold. One specimen of argentiferous galena, sent to me, yielded by fire assay 3½ per cent. silver. It was represented as coming from a four and one-half foot crevice, with fifteen inches of solid galena of the same quality as the sample sent. I have also seen a few samples of ruby silver from the same mine. The gangue is largely composed of heavy spar, or sulphate of barite. Gulch mining, too, is quite lively in some parts of the Territory. Some old, abandoned claims, that would not pay two years since, have been worked with very good profits this year. This is partly due to a decline in the price of labor, and partly to the abundance of water that our late spring snows and unusually heavy rains have afforded.

Our rainy season is now about over, but we had a snow storm last night, and some ten inches of heavy snow fell, a very unusual occurrence for this country, at this season of the year. It probably will all be gone within twenty-four hours, and we look for six or eight weeks of fine weather before our winter sets in, in earnest.

THE AGRICULTURAL INTERESTS OF THE TERRITORY

Have been highly favored the past season. The late snows and early rains have rendered irrigation unnecessary. The grasshoppers, that have been the bane of Colorado farmers the three past years, have not visited us this year, and everything, (if we except some damage to spring wheat from smut), has been in the farmer's favor, and we have now as fine crops of almost all kinds (except fruits) as any country can boast of, and if we had the trees, we doubtless should have a good yield of fruit. These luxuries will come after a while. In the meantime we must depend on "America" for what little fruit we need.

The first annual exhibition of the Colorado Agricultural Society, is to be held at Denver, on the 20th, 21st and 22d of this month. We expect a good turnout and a "good show."

Yours very truly, J. ALLEN SMITH.

Spanish Bar, Col. Ter., Sept. 10, 1866.

[Written for the Mining and Scientific Press.]

The Meadow Lake Mines.

EDITORS PRESS:—Three years have elapsed since auriferous quartz was accidentally discovered in this district, by Hartley and his companion, who were then engaged in the occupation of trappers. But being recent arrivals from the Eastern States, and perhaps knowing nothing of the nature of the rock that lay beneath their feet, they might have pursued their calling to this day, and the world have remained in ignorance of our mineral wealth, had not the sparkling surface revealed the scattered treasures. It is scarcely a year and a half, however, since the stream of population to Idaho and Montana was partly diverted from its course, and emigrants from California and Nevada began to pour into this new *El Dorado*.

In the promiscuous crowd that usually flock to every new excitement, by far the greater number have no fixed plan of action—are stirred by every breeze, and animated by one sole purpose—the desire of realizing a speedy fortune. Under pressure of this unhealthy excitement, a large town has been built up nearly in a day, and money foolishly squandered in the purchase of lots at exorbitant rates, before the crust of the granite hills had been torn by the miner's blast. Partaking of this nervous sensibility and unsteadiness of purpose, which seem peculiar to the American people, hundreds, I might almost say thousands of ledge, (for the feet recorded and unrecorded number, I am credibly informed, over a hundred thousand,) have been located, many of which remain in the same condition in which nature left them. Everything went on swimmingly for a time, caution was considered synonymous with

skepticism, and dreams of wealth gave false promise of ease and plenty.

In every fever there is a crisis, upon which hangs the death or convalescence of the patient. Meadow Lake has just passed that critical stage, but she is in so low a condition at present, that her death has been already reported by her enemies, and daily looked for, with trembling, by some of her too credulous friends. To account for this sudden decline, and to give a very brief but unvarnished statement of the mineral condition, so to speak, of this district, is the object of the following remarks:

The slow development of the mines, and consequent stagnation of business, may, with truth, be attributed to three obvious causes—the want of capital, the disappointed hopes of thousands of silly adventurers who failed to find mines of twenty dollar pieces already coined, and to the want of experience in working profitably gold-bearing sulphurets, which are the principal feature of our lodes.

GENERAL CHARACTER OF THE VEINS.

The general character of a large number of claims on the surface is an auriferous gossan, containing considerable quantities of white quartz. The lodes are well defined and generally very wide. They contain from ten to sixty dollars per ton of free gold, and resemble, in a remarkable degree, the celebrated Banker mine in Placer county. In a majority of cases, after having reached the depth of from eighteen to forty feet, the iron pyrites seem to constitute the entire fissure, or at least seventy per cent. of the lode.

In every instance where a shaft has been sunk to any considerable depth (and some of them exceed fifty or sixty feet), the sulphurets have increased in richness in a corresponding degree; in fact, some of them have yielded from \$100 to \$1,500 per ton.

The free gold, which is visible in the top rock, contains a silicious coating that prevents a ready amalgamation by the ordinary process of copper plates, etc., which, necessarily, involves the general introduction of grinding and amalgamating pans. Again, the principal objection to the pan process is, that it makes foul amalgam, or the amalgam of iron and copper with mercury. This objection, I may remark, has been overcome by practical and scientific millmen.

Much has been written about the base metals and the difficulty of getting rid of them; but in my opinion, manganese and arsenic, which exist here in vast quantities, are the chief barriers to the development of the mineral resources of Meadow Lake.

After a careful examination of the district, and a number of experiments, I have come to the conclusion that the most practical method of working this rock is to roast the concentrated sulphurets in an ordinary reverberatory furnace, and amalgamate them by the steam-pan process, the total cost of which would not exceed \$7.50 per ton.

In regard to the erection of reverberatory furnaces, and the introduction of the chlorination process, it is proper to observe that the reason why they are not constantly employed is the lack of tables in the mills for concentrating the sulphurets. The cost of transportation is likewise an item to be taken into consideration. The insufficient supply of materials necessarily occasions a greater cost to mining companies, and makes them despair of realizing a dividend from their mines. In a few months, however, these deficiencies will be supplied, confidence restored, business built up on a steady basis, and systematic mining pursued here, as it is in less favorable localities.

In this communication, Mr. Editor, I have endeavored to give a concise sketch of the present condition of the mines of Meadow Lake district; for, in writing to a journal like the MINING AND SCIENTIFIC PRESS, one should ever bear in mind the truth of the apothegm, "Brevity is the soul of wit." But one word more, and I have done.

An impression has gone abroad that not only are the mines of Meadow Lake a humbug, but that the winter is so long and so severe as to preclude the possibility of working the quartz during that season. It is true that the snow averaged eleven or twelve feet in depth the middle of last spring; but to any one who is at all familiar with the localities in which quartz mining is prosecuted, and the obstacles that have been overcome to accomplish that end, will be satisfied, from a careful examination of the topography of this region, that not a tenth part of the difficulties exist here. Some preparation is, of course, necessary, and until that shall be done, we must not look for the regular prosecution of mining enterprises in this locality.

J. S. L.

Meadow Lake, September 22, 1866.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, September 20.

12 sbs Ophlr at 203 per foot, s 3.
 2 sbs Ophlr at 203½ per foot.
 60 sbs Ophlr at 203 per foot.
 12 sbs Ophlr at 205 per foot.
 12 sbs Ophlr at 204 per foot, s 3.
 12 sbs Onbr at 205 per foot, s 3.
 7 sbs Chollar-Potosi at 113 per foot.
 4 sbs Chollar-Potosi at 115 per foot.
 6 sbs Chollar-Potosi at 119 per foot, h 5.
 6 sbs Yellow Jacket at 595 per foot.
 2 sbs Yellow Jacket at 595 per ft, s 3.
 2 sbs Yellow Jacket at 685 per foot c c.
 4 sbs Yellow Jacket at 700 per foot b 30.
 1 sh Yellow Jacket at 705 per foot b 5.
 6 sbs Yellow Jacket at 590 per foot.
 1 sh Yellow Jacket at 590 per foot s 3.
 2 sbs Yellow Jacket at 704 per foot, h 30.
 7 sbs Yellow Jacket at 590 per foot s 30.
 1 sh Yellow Jacket at 592½ per foot.
 3 sbs Yellow Jacket at 705 per foot, h 30.
 1 sh Yellow Jacket at 592½ per foot s 30.
 1 sh Yellow Jacket at 707½ per foot, h 30.
 2 sbs Yellow Jacket at 597½ per foot.
 2 sbs Yellow Jacket at 700 per foot.
 3 sbs Yellow Jacket at 701 per foot.
 1 sh Yellow Jacket at 702½ per foot s 30.
 1 sh Yellow Jacket at 705 per foot s 30.
 3 sbs Yellow Jacket at 705 per foot h 30.
 4 sbs Crown Point at 910 per foot s 30.
 1 sh Belcher at 95 per foot s 3.
 5 sbs Overman at 18 per share.
 2 sbs Overman at 18 per share, s 3.
 20 sbs Overman at 18½ per share.
 10 sbs Overman at 13½ per share, s 3.
 5 sbs Overman at 18 per share, s 30.
 5 sbs Imperial at 55½ per share, h 30.
 Amount of sales.....\$ 33,978 50

Monday, October 1.

5 shs Chollar-Fotosol at 125 per foot, s 3.
 5 shs Chollar-Fotosol at 130 per foot.
 5 shs Chollar-Fotosol at 130 per foot s 30.
 5 shs Chollar-Fotosol at 135 per foot, h 30.
 5 shs Chollar-Fotosol at 130 per foot, h 3.
 10 shs Chollar-Fotosol at 123 per foot.
 5 shs Chollar-Fotosol at 129 per foot, h 10.
 15 shs Yellow Jacket at 710/114 per foot.
 4 shs Yellow Jacket at 720/725 per ft h 30.
 3 shs Yellow Jacket at 712 1/2/104 per ft s 3.
 1 shs Yellow Jacket at 715 per ft h 5.
 24 shs Ophir at 202 1/2 per foot.
 36 shs Ophir at 203 per foot s 3.
 24 shs Ophir at 204 per foot.
 1 sh Belcher at 100 per foot, h 30.
 1 sh Savage at 1100 per foot, s 3.
 1 shs Savage at 1110 per foot, s 3.
 1 sh Savage at 1125 per foot, h 30.
 10 shs Overman at 18 1/2 per share e.
 10 shs Overman at 18 1/2 per share, s 3.
 5 shs Overman at 18 1/2 per share.
 20 shs Overman at 18 1/2 per share, s 30.
 5 shs Overman at 19 per share, s 3.
 5 shs Overman at 19 1/2 per share.
 5 shs Overman at 20 per share, h 30.
 10 shs Overman at 20 1/2 per share, h 30.
 5 shs Overman at 20 1/2 per share, h 30.
 10 shs Overman at 21 per share, s 30.
 20 shs Overman at 21 per share.
 20 shs Sierra Nevada at 2 1/2 per share.
 10 shs Sierra Nevada at 2 per share.
 5 shs Confidence at 53 per share.
 4 shs Imperial at 83 per share.
 1 sh Cal Steam Nav Co at 72 per cent.

AFTERNOON SESSION.

6 shs Chollar-Potosi at 123 per foot, s.3.
10 shs Chollar-Potosi at 123 per foot.
1 sh Belcher at 110 per foot, b.30.
1 sh Belcher at 107 per foot s.30.
3 shs Yellow Jacket at 722½ per ft b.30.
1 sh Yellow Jacket at 722½ per foot s.30.
1 sh Yellow Jacket at 725 per foot b.5.
1 sh Yellow Jacket at 722½ per foot s.30.
1 sh Yellow Jacket at 724 per ft s.3.
1 sh Yellow Jacket at 725 per foot, a.3.
1 shs Yellow Jacket at 727½ per foot.
1 sh Yellow Jacket at 730 per foot.
7 shs Yellow Jacket at 734 per 35 per ft, s.10.
1 sh Yellow Jacket at 730 per foot, s.30.
4 shs Yellow Jacket at 735 per foot.
1 sh Yellow Jacket at 750 per foot b.30.
1 sh Yellow Jacket at 745 per foot b.30.
2 shs Yellow Jacket at 740 per ft b.5.
6 shs Imperial at 82½ per share.
5 shs Overman at 20½ per foot, s.5.
5 shs Overman at 21½ per share.
20 shs Sierra Nevada at 2½ per share.
4 shs Sierra Nevada at 2½ per share, h.3.
4 shs Cal. Steam Nav. Co. at 71 per ct, s.30.
\$0,000 Legal Tender Notes at 71½c, s.30.
\$9,000 Legal Tender Notes at 71½c.

Tuesday, October 2.

1 sh Savage at 1110 per foot.
 1 sh Savage at 1145 per foot, h 30.
 1 sh Yellow Jacket at 750 per ft a 5.
 6 shs Yellow Jacket at 730 per foot, b 30.
 6 shs Yellow Jacket at 740 per foot h 3.
 5 shs Yellow Jacket at 740 per foot.
 7 shs Yellow Jacket at 742 2/3 at 755 per ft.
 1 sh Yellow Jacket at 760 per foot h 30.
 1 sh Yellow Jacket at 785 per ft b 30.
 1 sh Yellow Jacket at 750 per foot a 30.
 1 sh Yellow Jacket at 770 per foot, h 30.
 1 shs Yellow Jacket at 732 1/2 per foot a 30.
 3 shs Yellow Jacket at 732 1/2 per foot a 3.
 14 shs Chollar-Potosi at 122 per foot.
 5 shs Chollar-Potosi at 115 per foot, a 5.
 12 shs Chollar-Potosi at 113 1/2 per ft, a 3.
 5 shs Chollar-Potosi at 115 per foot, h 30.
 50 shs Chollar-Potosi at 113 1/2 per foot.
 6 shs Chollar-Potosi at 115 per foot, h 30.
 5 shs Chollar-Potosi at 113 per foot, a 30.
 5 shs Chollar-Potosi at 115 per foot, b 20.
 10 shs Chollar-Potosi at 110 per ft, a 30.
 15 shs Chollar-Potosi at 105 1/2 per foot.
 25 shs Chollar-Potosi at 108 per foot.
 10 shs Chollar-Potosi at 110 1/2 per ft h 30.
 5 shs Chollar-Potosi at 112 per foot h 30.
 5 shs Chollar-Potosi at 109 per foot h 3.
 12 shs Ophir at 200 per foot.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, October 6th, 1866.

The course of the Money Market since the last steamer day has exhibited no material change, but we think there is a tendency to greater ease in some quarters. Applications for discount in Bank have been less pressing than formerly, and first-class mercantile paper is readily negotiable at current rates of interest—1@1¼ % cent. per month—more doing at the former than at the latter figure. In the open market the usual difficulties have been experienced in obtaining facilities, except upon prime collaterals.

Our latest advices from the East, on the 4th instant, quote Gold in New York at 147 $\frac{3}{4}$, with a great scarcity in the market, and commanding $\frac{3}{8}$ th 3 cent. per day. Sterlig Exchange is quoted at 108.

Sight Drafts on the Eastern cities, payable in coin, are made at $2\frac{1}{4}$ per cent., Currency Bills at 40 per cent. premium on Gold, and Telegraphic Transfers at 4 per cent. Sterling is quotable at 49d. for 60 days' bills.

Gold Bars are quoted at 840, and a moderate demand is anticipated for steamer purposes. Silver Bars sell at $1\frac{1}{4}$ ¢ discount for average lots.

Some \$30,000 in Legal Tender Notes have been sold during the week at $71\frac{1}{4}$ @71c.; at the close we quote them at $71\frac{1}{2}$ c. \$5,000 U. S. 7-3-10 June Bonds sold at 76c.

City Stocks continue inactive, and few transactions have been made during the week. California Steam Navigation Company sold at 72 $\frac{3}{4}$ cent. early in the week, receded to 71 $\frac{3}{4}$ cent., seller 30, then advanced to 72 $\frac{1}{2}$ $\frac{3}{4}$ cent., and at the close we quote it at 71 $\frac{1}{2}$ bid. Some \$500 of San Francisco Bonds, 6's of 1855, sold at 72 $\frac{3}{4}$ cent. Fireman's Fund Insurance Company have declared a quarterly dividend of 4 $\frac{1}{2}$ $\frac{3}{4}$ cent. on their capital, payable on and after October 4th. We quote this stock at \$11.20 per share of \$10. Spring Valley Water Works sold at \$59.50 per share, and at the close is quoted at same figure. This company declared their usual dividend of $\frac{1}{2}$ $\frac{3}{4}$ cent. per month, payable 10th instant. The Union Insurance Company have declared a dividend of 6 $\frac{3}{4}$ cent. for the quarter ending October 1st, payable on the 10th instant.

Six 3 cent. Bonds of the Central Pacific Railroad Company, to the amount of \$7,336,000, have been placed in the market in the city of New York. They are offered at 95 3/4 cent., with accrued interest, in currency. These bonds are secured by first mortgage, are to run thirty years, with interest payable semi-annually in gold.

The Mining Share Market has been somewhat firmer during the week under review than for some time past, and stocks have fluctuated little from previous quotations, the general tendency being towards an improvement. The aggregate yield of various claims on the Comstock lode for the month of September, embracing the Hale & Norcross, Savage, Yellow Jacket, Gould & Curry, Crown Point, Chollar-Potosi, Imperial, and Empire Mill and Mining Company, amounted to some \$1,050,000. As compared with the bullion receipts for the month of August from the same source, we find a small gain.

Hale & Norcross still remains in firm hands, and no sales were effected in the Board during the past week. We quote it at \$1,675 hid. During the month of September 3,130¾ tons of ore were reduced, yielding \$150,719.49, which is 65 ⅔ cent. of the assay value. From this very flattering result we may infer that the mine is in a very good condition.

Savage has improved since our last report, opening at \$1,100, s 3, steadily advancing to \$1,150, h 30, then selling at \$1,145, and closing

12 shs Ophir at 199 per foot.
25 shs Imperial at 82½ per share, b 3.
5 shs Imperial at 82½ per share.
20 shs Imperial at 85 per share, b 30.
10 shs Imperial at 81 per share, b 5.
10 shs Sierra Nevada at 2¼ per share.
60 shs Sierra Nevada at 2½ per share, s 3.
3 shs Overman at 20 per foot, s 3.
7 shs Overman at 19½ per share, s 3.
\$ 500 San Francisco Bonds, 1853, at 72c.
\$5,000 Legal Tender Notes at 71c s 3.
\$5,000 Legal Tender Notes at 71c, s 30.

1 sh Savage at 1145 per foot, b 30.
 1 sh Savage at 1150 per foot, h 3.
 1 sh Savage at 1174 1/2 per foot s 3.
 1 sh Yellow Jacket at 730 per foot, s 30.
 1 sh Yellow Jacket at 730 1/2 per foot b 10.
 5 shs Yellow Jacket at 735 per foot b 5.
 2 shs Yellow Jacket at 717 1/2 per ft. s 5.
 2 shs Yellow Jacket at 710 to 700 per ft. s 30.
 6 shs Yellow Jacket at 705 to 700 per foot.
 3 shs Yellow Jacket at 710 per ft b 3.
 3 shs Yellow Jacket at 710 per ft.
 1 sh Yellow Jacket at 715 pr ft, s 10.
 1 sh Yellow Jacket at 720 per foot h 5.
 3 shs Yellow Jacket at 720 per foot.
 1 sh Belcher at 1 1/3 per foot s 15.
 20 shs Exchequer at 104 per share, s 5.
 4 shs Imperial at 86 per share.
 3 shs Imperial at 87 per share, b 30.
 3 shs Imperial at 85 per share, s 3.
 5 shs Imperial at 85 per share.
 12 shs Imperial at 83 per share, s 3.
 1 sh Emplre M & M Co. at 72 1/2 per sh.
 1 sh Overman at 18 1/2 per share s 30.
 4 shs Cal Steam Nav Co at 72 1/2 per cent

AFTERNOON SESSION

2 shs Yellow Jacket at 740 per foot.
2 shs Yellow Jacket at 740 per foot b 5.
12 shs Ophir at 192½ per foot, s 10.
12 shs Ophir at 192½ per foot, s 5.
10 shs Chollar-Potosi at 112 per foot
2 shs Chollar-Potosi at 112½ pr ft, s 3.
5 shs Imperial at 85 per share, s 3.
5 shs Imperial at 86 per share.
5 shs Imperial at 87 per share.
5 shs Imperial at 90 per share, h 30.
5 shs Imperial at 88 per share, b 15.
5 shs Imperial at 87 per share, b 5.
5 shs Imperial at 88 per share, h 30.

Amount of sales.....\$5,370 00

Wednesday, October 3.

3 shs Chollar-Potosi at 112½ per foot.

1 sh Chollar-Potosi at 113 per foot, s.

2 shs Chollar-Potosi at 113½ per foot.

1 sh Chollar-Potosi at 115 per foot, b 30.

3 shs Chollar-Potosi at 115 per foot b 3.

3 shs Chollar-Potosi at 1 17½ per foot b 30.

4 shs Chollar-Potosi at 116 per foot.

3 shs Chollar-Potosi at 117 per ft b 3.

8 shs Chollar-Potosi at 117 per foot, a 3.

20 shs Daney at 112 per foot.

2 shs Daney at 1130 per foot, a 3.

at \$1,141. The production of ore, it is said, has been greater during the week ending September 29th, without any particular effort, than for some time previous. A drift of 30 feet on the southeast face of the 6th station shows fair ore, and a rise of 35 feet above the track floor made from this point exhibits a good quality of ore. The south breast in the Curtis shaft will, it is thought, produce about 30 tons of ore per day during the first week of October. Besides supplying their own mills to their full capacity, sufficient ore, of the third grade, has been furnished for four outside mills. The amount of ore extracted during the week ending Sept. 29th, was 1,072 tons, and 1,107 tons were shipped to mills for reduction. The approximate value of the 1,072 tons of ore mined amounts to \$38,860, expenses of mining and milling the same, \$24,524, leaving a profit of \$14,336. This gives an average yield of over \$36 per ton. During the month of September the receipts of hullion amounted to about \$145,000.

Crown Point has not exhibited any activity for some time past, selling at \$910, s 30, during the week, and closing at \$925, bid. This inclines and lower drifts of this mine look well, we are informed, and the water in the lower level, at the latest date, had not become troublesome. During the week ending Sept. 29th, 10 tons of first-class and 550 tons of second-class ore were raised from the mine. This company, during the month of September, reduced 20 tons of first-class and 2,500 tons of second-class ore, and the yield of bullion for the same period amounted to \$115,000.

Chollar-Potosi advanced from opening quotations—\$113—to \$130, receded to \$105, rallied to \$118.53, and closed at \$116. No new developments have yet been made in the north and south drifts, on the 2d station, which are respectively advanced to 97 and 395 feet. Shipments of ore to Custom Mills for the week ending Sept. 29th, amounted to 472 tons. The receipts of bullion for the month of Sept. aggregate about \$75,000.

Gould & Curry continues inactive, and few sales are at present made in the Board. We quote it at the close at \$600 asked. This company have received, during the month of September, the sum of \$17,821.35 in bullion, and have mined in the same period some 6,000 tons of ore, 4,000 tons of which were reduced.

Imperial has set with more than usual sales, some 200 shares changing hands during the week, opening at \$85.50, buyer 30, receding to \$82.50, then advancing to \$87, and closing yesterday at \$83. The mines of this company continue in a favorable condition, with nothing special in regard to new developments. During the week ending September 29th, about \$37,000 in bullion were received, and for the month the yield amounts to about \$78,000.

Yellow Jacket has improved during the week, opening at \$695, advancing to \$770, h 30, then selling at \$729@735, and closing yesterday at \$742½. We may mention the continued favorable condition of this mine, without being able, at this early date, to give any reliable figures in regard to the receipts and operations for the month of September.

Opbir has receded from closing quotations of last week, opening at \$205, s 3, dropping to \$190, s 3, and closing yesterday at \$191, s 30. We have nothing of special interest to report from this mine. The Opbir-Mexican shaft has now attained a depth of 40 feet.

Empire Mill and Mining Co. is dull in the market, a few shares changing hands during the week at \$72½@70. At the close it is quoted at \$75 asked.

Belcher opened at \$95, s 3, advanced to \$103, s 15, and at the close we quote it at \$103, s 3. Confidence has materially improved on previous quotations, opening at \$53, advancing to \$61, and closing at \$58 bid.

Overman opened at \$18, advanced to \$21, then sold at \$18.50, and closed yesterday at \$18.50. Sierra Nevada changed hands at \$2.50@2, s 3, and closed at \$2.50. On the 2d of October an assessment of \$2.50 per share was levied on this stock. Daney sold at \$5, and Exchequer at \$1.50, seller 3. Bullion ruled at \$15@12.50.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$322,557.50.

5 shs Overman at $18\frac{1}{4}$ per share = 30.
5 shs Overman at 19 per share, b 30.
10 shs Overman at $18\frac{1}{4}$ per share.

Thursday, October

1 sb Yellow Jacket at 745 per foot b 30.
 2 sb Yellow Jacket at 740 per foot.
 1 sb Yellow Jacket at 740 per foot b 10.
 1 sb Yellow Jacket at 737½ per foot s 3.
 1 sb Yellow Jacket at 735 per foot h 5.
 1 sb Yellow Jacket at 730 per foot s 3.
 4 sb Yellow Jacket at 730 per foot.
 1 sb Yellow Jacket at 729 per foot.
 1 sb Savage at 1444 per foot, s 3.
 2 sb Savage at 1415 per foot.
 1 sb Chollar-Potosi at 119 per foot.
 5 sb Belcher at 105 per foot, b 30.
 5 sb Belcher at 100 per foot.
 1 sb Belcher at 103 per foot b 30.
 5 sb Imperial at 85 per share.]
 1 sb Imperial at 84 per share.
 5 sb Imperial at 85 per share, h 30.
 5 sb Imperial at 84 per share, b 10.
 1 sb Imperial at 83½ per share.
 10 sb Quillon at 12 per share.
 3 sb Bullion at 14 per share.
 5 sb Bullion at 15 per share.
 2 sb Bullion at 14 per share.
 5 sb Confidence at 50 per share.
 5 sb Overman at 13½ per share.
 10 sb Mountain Lily, (C. C.) at 20 per sh.
 5 sb Spring Valley W W, at 59½ per cent
 5 sb Spring Valley W W at 59¼ per sh.

AFTERNOON SESSION.

4 shs Chollar-Potosi at 117½ per foot.
2 shs Chollar-Potosi at 115 per foot.
1 sh Yellow Jacket at 740 per foot b 5.
1 shs Yellow Jacket at 735 per foot.
24 shs Ophir at 195 per foot, h 10.
5 shs Confidence at 61 per share, s 3.
5 shs Confidence at 51 per share, s 3.
1 sh Empire M & M Co. at 70 per share.
5 shs Overman at 13¼ per share s 3.
4 shs Overman at 13¼ per share, s 5.
5 shs Imperial at 63 per share, s 30.
5 shs Imperial at 63 per share.
20 shs Sierra Nevada at 2¼ per share.
20 shs Sierra Nevada at 2½ per share.
10 shs Bullion at 12 per share
20 shs Bullion at 12 per share.

Friday, October 5.

1 sh Savage at 1130 per foot.
1 sh Savage at 1130 per foot.]

2 shs Savage at 1160 per foot, b 30.
 10 shs Yellow Jacket at 740/712 $\frac{1}{2}$ per foot.
 2 shs Yellow Jacket at 740/735 pr ft, s 30.
 1 shs Yellow Jacket at 740 per foot, s 30.
 2 shs Yellow Jacket at 745 per foot, b 5.
 2 shs Yellow Jacket at 745 per foot b 10.
 3 shs Yellow Jacket at 747 $\frac{1}{2}$ /745 h 8.
 2 shs Yellow Jacket at 745 per foot.
 43 shs Ophir at 192 $\frac{1}{2}$ per foot.
 12 shs Ophir at 195 per foot, b 30.
 1 shs Chondollar at 115 per share, s 30.
 14 shs Chollar-Potosi at 115 per foot.
 5 shs Chollar-Potosi at 114 per foot.
 6 shs Chollar-Potosi at 113 per foot.
 5 shs Chollar-Potosi at 112 $\frac{1}{2}$ per foot.
 5 shs Chollar-Potosi at 112 $\frac{1}{2}$ pr ft, s 3.
 1 sh Chollar-Potosi at 112 per ft, s 3.
 1 sh Bolcher at 95 per foot.
 1 shs Empire M & M Co. at 70 per shara.
 2 shs Bullion at 13 per share.
 5 shs Overman at 17 $\frac{1}{2}$ per share.
 5 shs Overman at 17 $\frac{1}{2}$ per share.
 5 shs Overman at 17 $\frac{1}{2}$ per share.
 5 shs Overman at 17 per share, s 10.
 5 shs Overman at 17 $\frac{1}{2}$ per share b 10.
 10 shs Overman at 17 per share.
 30 shs Sierra Nevada at 2 $\frac{1}{2}$ per share.
 5 shs Gold Sierra Nevada at 17 $\frac{1}{2}$ per cent.
 \$5,000 U S 7 3 10 Bonds, June is, at 76c.

AFTERNOON SESSION.

2 shs Savage at 1130¢/1141 per foot, s 3.
 5 shs Savage at 1160 per foot b 30.
 1 shs Savage at 1130 per foot.
 1 sh Yellow Jacket at 742 per foot, h 3.
 1 sh Yellow Jacket at 744 per foot.
 1 sh Yellow Jacket at 742¢ per foot.
 24 shs Ophir at 190 per foot, s 10.
 12 shs Ophir at 191 per foot, s 3.
 1 sh Ophir at 195 per foot, h 30.
 12 shs Ophir at 192¢, per share h 10.
 12 shs Ophir at 190 per sh, s 10.
 12 shs Ophir at 191 per foot, s 3.
 1 sh Beicher at 109 per foot, s 30.
 1 sh Beicher at 103 per foot, b 30.
 3 shs Beicher at 103¢/100 per foot, s 3.
 6 shs Imperial at 83 per share.
 6 shs Empire N at 83¢/100 per share.
 2 shs Bullion at 14 per share.
 10 shs Daney at 9¢ per share.

Amount of sales.....\$ 47,015

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the *Miner* of Sept. 29th: The Mower tunnel, which has for some time been running in hard rock, struck into a softer material this week, supposed to be the casing of the ledge. Two shifts now keep the work moving night and day. Though they are running nearly on the course of this ledge, it is thought they will strike it within a few weeks. The Winchester Company have a proposition before them for the purchase of 1,000 tons of the ore from their 400-foot ledge—the parties purchasing to take it out. If the bargain is closed and we presume it will be soon, work will be commenced next week, and the ore got out ready for hauling.

From the Silver Mountain *Bulletin* of same date: The Washington Mill is rapidly approaching completion, and the workmen are only awaiting the friction gearing that is to drive the "barrels," which are expected in a few days, when soon after all will be in motion. The tunnel in Buckeye No. 2, in its progress to the north is nearing the second chimney. We saw ore from it on Monday, that is richer than any from the first. The ledge in the Balacava is improving in character, as the tunnel penetrates the mountain, and assuming a more solid formation. Mylett & Carmichael, finished their contract of seventy-five feet of tunnel for the Lady Elgin Company, having been twenty and one-half days in running the same. We learn that nearly, if not quite, seventy-feet more of tunnel will be required to cut the ledge. The bullion taken out of the I X L claim last year, amounted to over \$13,000, although only a trifle over \$6,000 is given in the annual report of the Secretary. There have been some important alterations made in the "By-Laws" of the Company, which the newly elected trustees feel confident will inure greatly to the benefit of stockholders in the future.

Amador County—

From the *Ledger*, Sept. 29th: The owners of the old Moore quartz ledge, at Scottsville, have resumed work on their claim. When they suspended operations, more than a year ago, the rock paid as high as \$10 per ton. The past week has been exceedingly dull; nothing of importance has transpired in this section.

Calaveras County—

From the *Courier*, Sept. 29th: We notice that the Keystone Company have commenced work on the western end of their claim, near the old caved-in shaft. Several river claims at Jenny Lind have recently been opened. Mr. Irvin, of San Andreas, has put up an engine on one to pump the water, on which he is working a party of Chinamen on shares. It is said to be yielding a large dividend. A Company at Spring Valley pumped out an old shaft about one hundred feet in depth, and commenced sinking. On the second day they struck rich dirt. They cleaned up forty ounces from their sluices last week, and the dirt appears to be getting better as they advance.

From the *Register*: The Fair Play Company are crushing rock with an arrastra, which pays a good dividend. They have an extensive lead, and large amount of excellent rock. We are informed that an offer of \$30,000 has been made for the claim by San Francisco capitalists.

Colusa County—

From the *Sun*, Sept. 22d: A shipment of twelve hundred pounds of sulphur was made from our landing last week. The company expect soon, to begin the regular shipment of it by the ton. They had had luck with their condenser some time ago.

El Dorado County—

From the Placerville *Record* of 26th: Quartz mining in this county, from present appearances, has received quite an impetus. The Harman Mill and Mine within our city limits, is in constant motion, with a full supply of rock which yields handsomely. The old Poverty Point, promises to be a profitable investment. The old Pacific, also within the city limits, that has yielded its thousands of dollars per run, is being put in proper shape for profitable working. The Eagle mine, at Grizzly Flat, has proved rich. We are informed by reliable parties from this section (not interested in the mine) that the rock has averaged \$25 per ton. At Georgetown, Coloma, Soap Wead, Johnson's Canou, and many other localities in this county, ledges well defined and rich have been discovered, and a few of them partially opened. There are still many sections of this county unprospected which, in the opinion of competent judges, are equally as rich as those already mentioned. Hydraulic mining is not carried on very extensively in this section, owing mainly to the high rates of water and necessary heavy expense in fitting

up; but the few that are being worked are yielding rich returns to their owners. There is a valuable claim now being worked at Cold Springs, about five miles from town, owned by Messrs. Schullmerich, Goodnow & Co., four in number. These gentlemen have labored incessantly for four years in opening their claim, and have expended for this purpose upward of \$20,000.

Humboldt County—

From the *Times* of Sept. 22d: The Humboldt Oil Company proposes to sell shares at the par value of five dollars each, sufficient to raise a sum of money—say \$3,000—that will authorize the commencement of boring for oil. Thereafter the balance of the stock will be sold at the same price. No debts are to be contracted by the association in any event. No assessments whatever are to be levied at any time. The payment of five dollars per share exonerates the purchaser from any liability thereafter.

Kern County—

From the Havilah *Courier*, Sept. 29th: We have been shown several fine specimens of gold bearing quartz, found in the Greenhorn district. These specimens were taken from the Lilly, Lewis and Examiner lodes. From the Lilly and Lewis veins the gold is visible throughout the quartz and it is extremely rich. From these specimens the lodes will probably pay six or eight hundred dollars to the ton. They are working with arrastras. The Examiner lode, recently discovered by Bob Stewart, will pay from \$70 to \$80 per ton. The Rich Bar (placer) mines, twenty miles from Havilah, on Kern river, are owned by Reed & Thompson, Ward, Fontaine & Avants. There are ten men employed, and the dirt now pays about \$20 per day to the man. Last week worked out in four days over \$700. The cost, before they commenced taking out gold, was \$2,500. Gilbert & Co., are working their claim, which pays well. Mr. J. W. Sprague, of the mining firm of Muncton, Sprague & Amshury, has negotiated in Boston a sale of five lodes in Mt. Sinai, or Kelseo district, for the sum of \$50,000 in legal tender notes. Mr. Sprague is now on his way out. The McKeedney mill commenced running again, on Monday last, after a long silence.

A 10-stamp mill is to be put up by the Pettus Company, in place of the old 4-ball crusher which proved such a complete failure. The Olancha Company have the machinery of an 8-stamp mill on the ground. The Grant shaft is over 105 feet, showing a ledge eight feet thick. The North shaft, 60 feet, ledge 2½ feet, with rock rich in free gold. On the Yreka, shaft is down 70 feet, ledge one foot thick, with very rich rock. On the Antelope, shaft 60 feet, stopped on account of water. A tunnel is now being run to strike the ledge at a depth of 100 feet. Vein four feet thick.

Mariposa County—

From the *Gazette*, Sept. 29th: Bear Valley is looking up, and considerable life is noticeable in the town. The Pine Tree and Josephine mines are paying well and additional hands are being added.

Nevada County—

From the *Gazette* of 27th Sept.: Wm. L. Tisdale presented us yesterday a fine specimen of sulphuretted ore, taken from the bottom of the incline of the Banner mine. Assays and working tests prove it to be rich. A suit was commenced on Wednesday, by Horace Beach against the Eureka, for an undivided seven-sixteenths of two hundred and seventy feet of the mine. The ground claimed adjoins the original claim of Ercot & Co., and includes the best part of the claim of the present company.

Same of 29th: The new hoisting works at the California mine were started up on the 27th, and worked to a charm. The engine is the most powerful one in the county. A 10-stamp mill will be erected without delay. A 5-stamp mill is on the way to the Grizzly ledge, at Devil's Cañon.

Same of Oct. 3d: The Eagle company have recommenced operations on their ledge. We saw yesterday some fine specimens of good looking quartz, taken from a ledge discovered a week or two ago, about two miles east of Nevada, near the Red Dog road. The locators have already sunk a shaft to the depth of fifty feet, and the ledge has increased in width from about two feet on the surface to four or five feet at the bottom of the shaft. It is owned by Richard Dillon and others. At the Fox copper mine, Greenhorn, the shaft is down 80 feet. They may have out between fifty and sixty tons of ore, which it is estimated will average between twenty and thirty per cent. copper, and fifteen or twenty tons of this will be shipped to San Francisco this week.

From the *National*: The owners of the Ophir mine took out \$2,000 in specimens on Tuesday morning. One piece of quartz which weighed 31 ounces, contained 22 ounces in gold. We were shown yesterday some very fair rock taken from the Great Central Ledge, Walker and Bayless Company, a short distance below Forrest Springs. The ledge was struck

at a distance of forty feet from the surface and is twelve feet wide. The Lucky mill, 15-stamps, started up on the 1st Oct. The tunnel in the Jim ledge is now 450 feet long, and cuts the ledges at right angles. Two crushings have been had from rock taken from different portions of the ledge, both of which yielded within a few cents of \$30.

EXCELSIOR.—From the *Sun* of 25th Sept: The Reduction Works Company have effected a loan at Nevada City, and there is now a certainty that the mill will be completed and working before the 1st Nov. A few days since, \$2.50 were panned out of two pounds and six ounces of rock taken from the tunnel of the Dutch Flat Co. Twenty tons of ore from the Alhambra ledge, recently worked at the Winton mill, yielded upward of \$260.

Same of 27th: The Comet Co., has sunk thirty-five feet with its shaft, finding the lode at that depth to be some twelve feet wide. An assay of rock taken from the bottom of this shaft, shows \$624.23 in gold, \$46.30 in silver, and 15 per cent of copper.

Placer County—

From the *Herald*, September 29th: Mr. Matthewson, of the Martinez Quartz company, has sent us several pieces of rock from their claim, that shows splendidly in free gold.

The *Stars and Stripes* gives a list of the quartz and cement mills in the county, with the number of stamps in each. There are eleven cement mills, with an aggregate of 150 stamps. Of quartz mills, there are nine with a total of fifty stamps, and two others, one of forty and the other of ten stamps, nearly completed. The 40-stamp mill is to work the Banker mine.

The editor of the Dutch Flat *Enquirer* had visited Gold Run. He says: "Entirely independent of 'outside capital,' and indifferent what opinion 'capitalists' may form as to the reliability of their ground, or its desirability for investment, the Gold Runners have closed their most successful year's mining, and are energetically at work preparing for another season. As it is now an established fact that the lower and untouched is richer and more extensive than that which has been for some years so successfully worked, they make their calculations with reference to operations many years ahead with as much confidence as most miners do for the same number of days in advance. Montana, Idaho, or any other distant gold fields stand but a poor show for having their population increased by Gold Run miners."

Sacramento County—

From the *Folsom Telegraph* of September 29th: Palmer & Day's Quartz mill, on the Jersey Blue ledge, is crushing about ten tons per day of selected rock. As they have not cleaned up we cannot give the result, but it is reported very rich.

Shasta County—

From the *Courier* of September 29th: The Kellinger company have run the lead out on both sides of the tunnel, and find themselves confronted by a solid and seamless wall of granite. Twenty-five thousand dollars have been expended on this claim, and no ledge yet. Last week the Potosi company run twelve tons of rock through their mill and the average yield was sixty dollars per ton. Middletown bids fair to regain some of its former importance. The Tornado company are working two hydraulics. Since the Tornado has gone to work, some thirty claims have been taken up on the same lead, and will be worked as soon as water can be obtained. Prospects in South Fork district are good. In the Chicago lode is wide, regular, and well defined. The Big Central has a shaft down over thirty feet, shows a ledge over four feet wide, and rock taken out during the past week prospects immensely rich in gold.

Sierra County—

From the *Messenger* of 29th September: The Montpelier company are building a new flume head dam on the east fork of the North Fork. The Sierra Buttes mine will clean up in a few days about \$40,000. The Sierra Tunnel, at Gold Cañon, is again paying dividends to the shareholders. An apparently valuable lode has recently been struck in Ladies' Cañon. New discoveries are daily reported. The Oro Quartz Company have commenced sending ores to the Montpelier mill. They are driving ahead their adit level. The Good Hope company is quarrying very rich ores for milling at the Gold Bluff mills. The company are negotiating for a mill, to be put up early in the spring. A rich quartz ledge, called the Mammoth, was recently discovered in Sailor Ravine, about three miles north of town. The croppings show free gold. A conditional sale has been made of the discovery for \$12,000. The Ohio company have out about three hundred tons of rock ready for crushing. A quantity of this ore was sent to San Francisco and worked at the North Beach mill, and paid handsomely. The Independence company, at the Sierra Buttes, cleaned up this week a bar of \$17,000. This was for a run of thirty days. The main level is being rapidly driven ahead to one of

the richest chimneys of the vein, which it will soon reach.

Siskiyou County—

The *Yreka Journal* of Sept. 27th, says: The quartz mining interests of Siskiyou appears to be growing brighter every week. The leading section, at present, is Humbug, at which place all the ledges are prospecting handsomely. During the past week a number of San Francisco stockholders in the Siskiyou lead have been visiting their claim, with a view to putting up a mill, and work is progressing steadily on the Shasta-Butte lead in getting out rock to be crushed next month. The Lash & Co. ledge is also being worked constantly.

Tulare County—

The Buena Vista claim is producing from 2,500 to 3,000 gallons per month of superior oil.

Tulame County—

From the Columbia *Citizen*, Sept. 29th: In a side drift, recently run in the Mariposa claim, a vein has been found apparently independent from the original lead, which prospects from fifty to seven hundred and fifty dollars to the ton. This new vein is about twenty feet from the old lead, and is pitching in the same direction. The Hazel Dell mine, about 400 feet from the Morse, has a shaft down 100 feet, from which they are drifting. The only lot of ore yet crushed yielded \$25.25 per ton. They have a 5-stamp mill.

It is reported that the Harris claim is conditionally sold to the Raw Hide Ranch Co., for \$20,000. Some of the top rock has been crushed with a yield of \$18 per ton. The Preston claim has been disposed of to General Rosecrans.

NEVADA.

Washoe—

From the Gold Hill *News* of Sept. 29th: The new shaft of the Imperial and Empire companies, being sunk jointly by the two companies in the ravine coming down from Virginia, has now attained a depth of 580 feet, and the work of sinking the Ophir-Mexican shaft 100 feet deeper is being actively prosecuted with a full force of hands night and day.

Reese River—

From the *Reveille*: There were received to-day, Sept. 24th, 4,750 ounces of crude bullion from the Cortez district. The bullion was reduced at the mill of the Mount Tenabo company. A certificate of assay was shown to us this morning, (25th) which gives the yield of \$1,129.45 of silver to the ton. The ore was obtained from the surface in the Reveille district. The new mill of the New England and Nevada company, Smoky Valley, started on the 24th, with ten stamps. The working of the machinery was perfect, and afforded entire satisfaction.

The "Indian Jim" ledge, Hot Creek, crosses the cañon at a right angle and rises up the steep perpendicular hills on either side to the height of nearly 2,000 feet. It has been traced four miles to the northward and about one mile to the southward. The course is north and south, with a dip of sixty degrees to the east. The face of the vein exposed is about 600 feet long and 60 feet wide, presenting a massive wall of mineral, which varies in thickness from thirty to sixty feet. The situation affords the greatest facilities for the most systematic and extensive operations in mining. According to the best authority, the Indian Jim is a true fissure vein. So vast are its dimensions that we are informed that several millmen who examined the ledge at the point of greatest exposure, estimated the quantity of ore above the surface to be nearly 400,000 tons, the major portion of which, in their judgment, would pay for reduction.

From Cortez district, we hear almost daily, the most encouraging news. Several companies are at work on their mines with the most satisfactory results, and are taking out the best quality of ore, which will shortly be brought here for reduction. The Taylor & Passmore have extracted ore, one ton of which has been carefully assayed, and which they are confident will yield \$500. From the McAleer mine, five tons have been taken out, which are estimated to exceed \$200 per ton. William Gill has taken from the Gill mine, located at the northern end of the "Giant," two and a half tons of mineral, which he avers will go \$250 per ton. The Mount Tenabo Company is working the Cortez Giant, a location on the "Giant," with the highest success. It has sunk on the claim to the depth of thirty feet, disclosing a vein of compact ore seven feet thick, which will yield at the rate of \$150 per ton. This has been traced for 300 feet. The 13-stamp mill of the company is reducing at present about seven tons daily, but it is thought the amount may be increased three tons.

Esmeralda—

The Union of 29th says: G. W. Coffee has added a new battery of four stamps to his little mill in the lower part of town, and keeps it constantly at work crushing rock for customers.

Humboldt—

From the *Register* Sept. 29th: The Gem is

driving ahead in earnest, and will next week have twenty men at work. . . . A few days since, samples from two localities on the Ophir vein were shipped, and a test was made at the Pioneer mill. The result was a yield of \$40.32 to the ton, all silver. The vein is from two to three feet wide, and the ore tested was taken from wall to wall without any selection. . . . The Pioneer mill is running on Manitowoc ore this week. . . . The Munroe sent a small bar of gold bullion, value \$1,000, by last express. **Black Rock.**

Below we give the results of the working of the rock from Haidin and High Rock districts; these results were obtained at Dall's mill in Washoe Valley:

HARDIN DISTRICT.	
Monadnock Lode (surface).....	\$256 00
Snow Storm Lode, 40 feet down.....	174 71
Derrima Lode, (surface).....	48 84
Ruby Lode, (surface).....	105 69
Banner Lode, (10 feet down).....	147 00
Eureka Lode, (20 feet down).....	51 00
Summer Series Lode (surface).....	40 00
HIGH ROCK DISTRICT.	
Blue Lead, (surface).....	\$113 00
High Rock, (surface).....	96 00
Bonham, (surface).....	95 00

These results were all obtained by mill process, and leave no doubt of the richness of the Black Rock region.—*Sage Brush, Sept. 1st.*

IDAHO.

From the *Avalanche* Sept. 22d: The "Oro Fino and Morning Star Mining Company," has been organized, with a capital stock of \$250,000. Creditors of Moore & Fogus, representing that amount, constitute the company. . . . The Richmond ledge is looking better. The Cosmos mill is to be kept in operation throughout the winter. . . . E. L. Johnson, not Zenas Wheeler, is one of the proprietors of the mill for Flint district. . . . Judge Lowe, of Iowa, has been making a personal inspection of the mines in Owyhee district, with a view of investing therein. He has decided to erect two 10-stamp mills in Flint district as early in the spring as machinery can be freighted there; also, to tunnel War Eagle Mountain, commencing at a point near Miner's mill.

Flint district correspondence of the same says: A new era has dawned upon Flint. The first long wished for and much spoken of quartz mill is on the ground. A part of the machinery of Burnham, Johnson & Co.'s mill is also on the ground, and ere spring opens, two mills will be in working order. The latter mill is about to be erected on the Fogus site, at the junction between the towns of Oro and Owyhee. The workmen on the Rising Star have for the present abandoned sinking on the ledge, but will soon commence work again. The Sherman company have commenced a tunnel at the level of the gulch, and intend striking the ledge at a depth of about 100 feet. An Iowa company have bought the Forrest Discovery claims and intend erecting two mills here in the spring.

Idaho City correspondence: "Doctor Bryant and others of this place, have started a tunnel into East Hill, commencing on the Bear Run side. They are now in about 140 feet, and a day or two since they got through the bed-rock and have struck into a kind of clay, mixed with gravel and quartz, which prospects first rate. Wm. Middleton has been into it from the start, and a day or two since Vantine & Co bought in. The contract is to run in the tunnel 300 feet. In Placerville their tunnel has created quite an excitement and they are running them in all directions. If this country is going to pay better under the bed-rock than it did on top of it, there is a chance for it to be a great one yet. One thing I know, I prospected the huck end of the tunnel from the top to the bottom, and if there is plenty of such ground as that, I can pack the dirt out in a bucket and wash it in a rocker and make ten dollars a day, and not work very hard either."

From the *Statesman* of 13th Sept.: Benson's mill, on the Wide West, at Rocky Bar, will be started again this fall.

Ruby City correspondence of *Shasta Courier* says: A new ledge was discovered last Saturday, which equals anything yet found in this district; native silver is being taken out of it by the pound almost, and a wild excitement prevails in consequence. Claims are staked off in every direction.

The failure of Moore & Fogus has cast a gloom over this community, but I think it will prove salutary in the end, as it will result in the establishment of a healthier financial condition. Heretofore orders on Moore & Fogus have been the principal currency, but since their failure gold and silver is beginning to circulate.

MONTANA.

From the *Post* of the 15th: In Bivin's gulch, two hundred miners are engaged in working upon the old claims, and make, on the average, more than regular wages. There are no Chinamen interested in this section, and the present laborers do not intend that there shall be as long as it continues to pay so well. . . . The news from Highland gulch is very encouraging. Nearly 500 men are prospecting, and many of

them have been very successful. The dust is, of course, and many nuggets have been picked up, although none of them are of great value, the largest being worth \$40. The diggings are shallow, and it is only five or eight feet from the surface to the bed rock. The miners have not been disturbed by winter. We have been told that a descendant of Ham, who owns desirable ground, has refused \$5,000 for it. There is quite a stampede for this gulch, and its merits will be clearly known within a few days.

Bannack correspondence says: "The shaft on the Huron, in Blue Wing district, is now forty-five feet deep. The mineral looks well. * * It appears there will be quite a camp at the new diggings on Lemhi. Quite a number are mining there, and the dust that is brought into Bannack for goods is as fine as our own."

We hear a rumor of rich diggings somewhere, more wonderful than McEllan or Alder gulches, said to be about seventy miles from Bannack. Messrs. Smith & Graeter own the "Pioneer Water Ditch Company," and obtain a supply for their hydraulics from Horse-Prairie creek. They have been taking out upon the average, \$500 per week, and have recently struck dirt which will pay better.

Same paper has an editorial in regard to a letter which has been going the rounds under the head of "Montana's Bilk." It says: "If Alder gulch is 'played out,' we desire to state that there are claims in it which are producing \$3,000 or more every week. Messrs. Campbell and Schumann, of Diamond City, took with them to Fort Benton, \$200,000, in forty sacks of \$5,000 each, the profits of one season in Confederate gulch. In the same train there were \$200,000 more which belong to a few individuals. We have been informed by reliable parties that the steamerboat Luella which recently sailed down the Missouri river, conveyed over one million in gold dust, most of which belonged to miners alone. This extraordinary event has not been noticed as it should have been. If an ocean steamer should bring from Europe ten thousand dollars in coin, the incident would form the subject of a leader in every American journal. But when the wealth is taken from the bosom of the earth and poured into the national resources, it does not make an item for the press. Six workmen in McEllan gulch realized \$70,000 apiece, and left for America about two months since."

COLORADO.

From the *Denver News* of Sept. 12th: We have specimens from the Hotie Jane and Yosemite lodes, situated north of the Arkansas river, near Red Mountain district. These specimens, by a free gold assay—crushing and panning—yield eight ounces to the ton. Ten tons of the ore make a cord. The assayer thinks that an assay of the pyrites, contained in the ore, will increase the yield to twenty ounces per ton. . . . Times are improving in the Snake River mining region. A private letter from there says: Things are brightening here much since I last wrote; everybody is building and the miners are pretty well satisfied with the new mining law. . . . Capt. Holson is just in from the Peru district, Snake River mines. He has discovered and secured title to four lodes with well defined veins of argentiferous galena, from three to eleven feet in width, and which assays from \$50 to \$300 to the ton, in silver.

The editor has paid a visit to the Snake River mines. He says: Immediately around and above Peru—which is almost at the upper verge of timber growth—there are from fifty to one hundred known and well defined leads to which a team and wagon can be driven. From twenty-five to sixty men have been at work for the last two or three months. Next season reduction works will doubtless be established. On the South Fork, five miles from Peru, Hon. John T. Lynch has already erected a furnace for smelting ores. Since our return we learn that one or two runs have been made with the most flattering success. Peru is sixty-three miles from Denver.

From same of Sept. 9th: Cyrus Hurd starts to-day for Black Hawk, with a 20-stamp mill, which is to be set up immediately. . . . It is a long time since as many mills were running as now. No one works without at least paying expenses. More gold is being taken out than usual, and while at present we have dull times there is a promise for better things in future.

From the *Journal* of the 18th: J. E. Lyon & Co., yesterday shipped 200 pounds of mat, worth about a \$1,000 a ton in currency, one-third the value being copper. That will quite pay the cost of transporting to New York and separating, leaving the bullion net profit. . . . Mr. Darby, for the Perigo Company, is having a few cords of ore taken out by him last winter, tried at the Griffin mill, and the indications are most encouraging. . . . Mr. Brown has got in with a 1,000 pounds of ore from Red Mountain. It looks well, and is to be thoroughly tested. It came from a ledge the croppings of which are 13½ feet wide. . . . The Georgetown

Smelting Company are building a large reverberatory furnace precisely like those at the Lyon Smelting Works at Georgetown. Many parties are going to get out ore in Argentine and Griffin to be tested at the new furnace as soon as it is ready. Before winter we shall know something more definite and satisfactory of our silver resources. . . . Things are swimming in Ward district. Improvements are being made and projected. The Niwot mill continues to pay as at first. . . . Mr. Fitzpatrick cleaned up yesterday and retorted \$365½ ounces of gold.

GEOLOGICAL INVESTIGATION DESIRABLE.

We have frequently felt both interested and instructed by articles relating to mining and mining matters, which have appeared from time to time in the columns of many of our mining exchanges. Two articles of this description in the *Amador Ledger* have recently attracted our attention, under the titles, respectively, of "Quartz and Placer Mines," and "Quartz Ranges." The former article gives a comprehensive geographical description of the various placers, barren grounds, and ground containing quartz lodes, found in Amador, Calaveras and El Dorado counties; showing the particular relation which each bears to the other. The editor of the *Ledger* remarks that, so far as his observations have extended in the above counties, there are three distinct and well-defined ranges or belts of gold-bearing rocks lying between the summit of the Sierras and the foothills, running nearly parallel to the axis of the mountains, with intervening ranges of barren territory. Experience has taught both the quartz and placer miner to confine his labor principally to the region embraced within the gold-bearing ranges. A disregard of these facts has cost the unintelligent millions of dollars, and the problem yet remains a stumbling block to the inexperienced. Experience has demonstrated that the value of a quartz mining district should generally be pretty closely gauged by the former value of such a district for its placer mines. In the article on "Quartz Ranges," allusion is made to Prof. Rowlandson, and other writers whose contributions have appeared from time to time in the *Mining and Scientific Press*, desiring their assistance in elucidating some of the more difficult problems and theories, in relation to our gold-bearing regions, which require demonstration. In order to second the wishes of our cotemporary, we clipped the two articles above alluded to and enclosed them to Professor R., from whom we have received the following in reply:

POTRERO NUEVO, Oct. 3d, 1866.

EDITORS MINING AND SCIENTIFIC PRESS:—I duly received your note enclosing slips from the *Amador Ledger*. Some of the points alluded to by the editor of the *Ledger*, it was and still is my intention to embrace and endeavor to elucidate in a concluding chapter respecting "The Age of Gold Bearing Rocks." Others of great economic importance, which will have some day to receive a legislative settlement, would require separate treatises of great length; I allude to such as the one ledge theory. I cannot conclude the note without calling the attention of the *Amador Ledger*, yourself and all others interested in promoting the future progress of mining, to the very unsatisfactory nomenclature adopted in the mountains, for describing objects relating to mining and geology.

For instance, the editor of the *Ledger* describes certain ledges as "Boulder Ledges." What does the expression mean or imply? I suspect, but do not feel certain, that I know what is meant. Another matter is alluded to as "a variety of rock known amongst miners under the name of lava," under which term I presume travertine or tufa is meant. A phenomena, however, of a still more interesting character is described as distinguishing the upper or eastern range or belt, "the great distinguishing feature of which is its immense dyke of limestone, cutting through every intervening obstacle, and flowing down along the mountain side to the southwest, like some great river." Phenomena not greatly dissimilar, but on a very much smaller scale, I have observed, though very rarely, amongst the carboniferous rocks of the British Isles. It is not impossible that fused limestone may have flowed in the manner described, however impossible the circumstance may appear to ordinary minds. Such appearances, however, so rarely present themselves that the fact as asserted should be carefully examined before the same is accepted as proved. Perhaps the

editor of the *Ledger* would oblige his readers with additional particulars.

THOMAS ROWLANDSON.

Our columns will always be open, and every facility given, to advance the interests of mining and of the parties engaged therein. A mere desultory discussion, whether in our own, or any other columns, would probably prove more voluminous than interesting or instructive. Much of the correspondence would probably consist of a reiteration of similar facts by different parties. We think the object sought by our esteemed cotemporary of Jackson, would be more easily attained if an arrangement could be made, by those more particularly interested in mining throughout the great central mining regions of California, say in Nevada, Placer, El Dorado, Calaveras, Amador, and Tuolumne counties, etc., to organize local clubs in their respective districts, which should engage some competent person, say, for instance, Professor Rowlandson, to make a careful examination of the mineral regions, collect all the local information readily attainable, and then deliver a series of lectures descriptive and illustrative of the same, before the several local clubs; detailing the special phenomena, if any, which may be observed in the various localities, and giving such economic and practical hints as may be thought serviceable. A vast amount of valuable practical information might thus be collected and disseminated, which could not fail to exert a most important and happy influence on the general advancement of mining operations throughout the State. We merely throw out the above hints, that our mountain friends may think of them and judge of their feasibility and utility.

We have quite a number of intelligent practical men, in this city and State, who are abundantly able to make themselves useful in the way we have pointed out, and whose services might be secured for a moderate compensation. We have spoken especially of Professor R. in this connection, for the reason that his correspondence with this paper has both shown him to be a gentleman in every way qualified for such a field of usefulness, and has brought his name so prominently before the mining public as to induce our *Amador* cotemporary to make especial allusion to him. In other countries, such things are carried out under government auspices. In our own country, the lack of practical information with regard to mining matters, among government officers and advisers, leads rather to taxation than governmental encouragement of mining operations—a policy which time will eventually show to be most disastrous to one of the great leading sources of our country's prosperity, whether in war or peace. In connection with this matter, it may be well to remark that the publication of a skeleton map, on a large scale, of the chief mining districts, such as is alluded to in our "Notices to Correspondents," in the present number, would greatly aid the views above set forth.

The following suggestion, in regard to the meteoric shower announced for the 13th or 14th of November, has been made in one of our city journals:

"That in every city the City Fathers appoint a special watchman, whose business it shall be, on the first appearance of the phenomena, to ring the fire-alarm bells, to awaken the inhabitants; as there cannot be a doubt that every one will be anxious to see the grand illumination."

We think the idea a good one.

To FILTER caustic potash and caustic soda, take an ordinary funnel, put in fragments of marble, and then coarse grains, covering with fine powder; wash out until the water runs through clear, and the filter is ready for use. The caustic lyes run through this filter very rapidly. The funnel must be kept covered during the operation. When it is desired to free the carbonates of the alkalis from all traces of chlorine, add carbonate of silver and filter.

SCANDINAVIAN INDUSTRIAL EXHIBITION.—Sweden, Norway, Denmark and Finland have combined to make an industrial exhibition at Stockholm of their products of art and industry. The exhibition building is said to be a fine structure.

Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

D. W. H. SMITH, W. B. EWER, A. T. DEWEY.
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Canvassing Agents.

Our Agents can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1886.

Mr. O. F. Truesdell will act as our Corresponding Agent and Solicitor in the interior of this State, from this date. August 25, 1886.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.

SAN FRANCISCO, Jan 11th, 1886.

San Francisco:

Saturday Morning, Oct. 6, 1886.

NOTICES TO CORRESPONDENTS.

Owing to the great and rapidly increasing amount of our correspondence, consisting largely of queries relating to various interesting points connected with Mining and Metallurgy, we find it indispensably necessary, for want of space, to confine our replies in future chiefly to a series of brief notices, which hereafter will appear regularly under the above caption.

Q., REESE RIVER.—We are quite familiar with the variety of ore submitted to us, which is so prettily marked with blue and green spots. You err, however, in common with most of those who have described such ores, in calling them chlorides and bromides. The blue and green spots are carbonates of copper; chlorides may be present. The latter, in a pure state, present the color and general appearance of horn; hence its vulgar term, "horn-silver." The bromide of silver is very rare, and when found it is usually associated with the chloride. Both can be extracted from any ore containing them by means of heated concentrated ammonia (spirits of hartshorn). If the solution so obtained is subsequently saturated with muriatic acid, and a few drops of the latter in excess be used to precipitate the silver as a chloride, the latter will be obtained as a curdy sediment. The value of the ore in silver may be estimated by weighing, after carefully drying the precipitate. Every 100 grains of the latter contains 75 of pure silver; or, if estimated by vulgar fractions, every grain will contain three-quarters of a grain of silver. Should, however, the ore contain silver in the form of sulphide, this would have to be looked for in another manner.

A LEARNER, NEVADA CITY.—You are right; a skeleton map of the various mineral veins of this State ought to have formed the first publication of the State Survey. A very useful and instructive map of this character, illustrating the course, dip and angle of the chief gold and copper veins, together with the dip or contorted character of the enclosing rocks, all of which could have been explained by means of well known geological characters, is a great desideratum. Such a map, even on a scale of one inch to a mile, of the chief mining sections, might have been completed three years ago. Had it been so, others, willing like yourself to assist in filling up the details, would have been greatly aided. Such a work would not be very expensive, and the State would long since have been amply compensated by the great assistance it would have been to the numerous independent observers, whose accumulated labors would have brought forward a mass of information, far greater in extent and value, than it is physically possible for the limited staff, officially engaged in this work, to accumulate in a long term of years.

A SUFFERER.—We are afraid that if we devoted the entire space of the MINING AND SCIENTIFIC PRESS to an attempt at exposing the malpractices, sharp practices and frauds of mining speculators, we could do little either to assist those who have been, or prevent others from being similarly imposed upon. Such glaring deceptions as have been effected by the introduction of wild-cat schemes, could scarcely have been successfully carried out, had it not been that during the late, like all other exciting periods, the gullibility of the public was in the highest possible state of tension; much of which, however, may perhaps be largely attributable to individual cupidity, aroused to intensity by the glowing descriptions of smart operators. Had all the capital paid to prospectors and others for stock in crude and undeveloped claims been applied, in an economical manner, to opening out the respective properties, both individuals and the community would have been largely benefited; fewer undertakings (pure wild-cat excepted) would have collapsed; more dividends would have been paid, and fewer assessments called for. Much extravagance, no doubt, attended the earlier operations, not only in mere working, but also in inordinate salaries to presidents, superintendents, etc. We suspect, however, that far less distress has been occasioned by willful management, with the object of operating on the share market, than is commonly supposed. In this respect ignorance, rather than willfulness, has exercised the chief influence in prejudicing the interests of stockholders.

THE COLLEGE OF CALIFORNIA.

One of the first duties of every community is to provide for the education of its youth. A majority of our State Governments have wisely made provisions to secure for the Common School a liberal and permanent support from the public funds; but the higher institutions for learning are left more to the care of the people in their individual capacity. The first goes hand in hand with the pioneers of civilization; the latter should be made to press closely upon the advancing line of the former. The School will most signally fail in the accomplishment of its mission, if it is not closely followed by the College, to which, in these modern days, we must mainly look for those who are to fill, not only our pulpits and forums, but also the leading positions in all our chief industrial pursuits. Time was when the industrial world plodded along, year after year, and century after century, in the same old track that had been trodden for thousands of years before; while the paths of learning were but little sought after except by those who were willing to bury themselves from the world in the barrenness of monastic study. But in the present age of physical and social progress, no people can hold their own, much less maintain a position in advance of neighboring nations, who fail to carefully prepare a goodly number of their young men for the great intellectual conflicts which now give life and form to the material as well as to the literary status of the civilized world.

The now altered conditions of the expected duties and responsibilities of educated men, from what they were a century or so ago, require a corresponding change in the mode of imparting instruction, and, in the surroundings from which the student should derive his early scholastic impressions. The seclusion required in former times, must now give place to a suitable degree of association with active life. To be qualified as leaders in the broad field of modern civilization, young men, during their term of study, should, by association, attain an intelligent appreciation of, and sympathy with, the true spirit of the age, by a proper familiarity with its higher and more characteristic forms, as developed in a model neighborhood life.

The founders of the College of California appear to have fully considered these important preliminaries in selecting a site for that which seems destined to become the leading and model institution of learning on the Pacific Coast. They have been most fortunate in making a selection, around which must soon grow up a community just fitted to form the neighborhood and surroundings of a literary institution of the class proposed, and which is now well under way in Oakland, but which will soon be removed to the spot selected for its permanent home. Months of patient and diligent search, in every direction, within a moderate distance of San Francisco, were expended ere the present site was fully determined upon. Years of subsequent reflection, and the universal voice of hundreds of men well versed in such matters, and from all parts of the world, who have visited and carefully examined the site, have fully approved the choice. Indeed, the most casual observer, who is at all acquainted with the usually forbidding aspect of the country around this city, has only to visit the spot selected to at once see the wisdom of the choice.

Situated at a convenient distance from the city, in full sight thereof and of its shipping, and directly opposite the famous Golden Gate, with a broad foreground, embracing hill, dell and plain, rock, tree and shrub, water, land and island views, with some of the finest mountain scenery of the Coast Range in the distance, and a constant succession of the most gorgeous and varied cloud views, which any land or climate can produce, there seems nothing left in the way of natural prospects which heart can wish. With regard to climate, it is as peculiar, unique and desirable as is its scenery. We have already said it was directly in front of the Golden Gate. Its distance therefrom is

about fifteen miles. It is well known that through that remarkable break in the Coast Range there is almost every morning, for one-half of the year, a constant flow of cold air, which, mingling with the warm, moist atmosphere that rests over the city and neighboring interior water and land, condensing its moisture into the shape of cold, heavy fogs, which are so much dreaded by our citizens; while the other half of the year, a still colder and more violent wind comes rushing in through that same shore mountain pass, chilling everything with its rough blast, and almost blinding the eyes with the clouds of dust which is everywhere raised in its course. It is this cold, dry northwest wind, absorbing every particle of moisture which it can reach, from plant, flower and soil, that renders the scenery immediately about San Francisco such a dreary, barren waste.

By looking at a map of this immediate coast, it will be seen that the narrow strip of water which enters from the ocean, soon opens into a wide expanse, and divides to the north and south. The land, on all sides from this water generally rises quite abruptly to a considerable height. With the map still before you, and reflecting that under the conditions named, the chief force of the winds will pass along the water courses, as their lowest, smoothest and most direct channel, it will naturally occur, that before they have time to expand over the interior, they must fork or divide at a point about seven or eight miles inward from the Golden Gate, one branch moving along northward toward the Bay of San Pablo, and the other moving southward, along the larger bay, toward San Jose. Now this is just what they do, after passing Alcatraz Island. Almost the entire force of the lower current of air is found following the water channels; very little of it being perceived in Oakland, or on any part of the Contra Costa coast, for six or eight miles northward. No matter how heavy the wind comes rushing through the Golden Gate and over the city of San Francisco, let a boat start from Alcatraz, where the force of the wind is at its height, and move eastward in a direct line with the wind, as observed at that point, it will soon be in comparatively calm water. After reaching the land in that direction, let the observer continue his course straight forward to the foot of the Coast Range, some five miles further, and he will still find himself in a calm atmosphere. Passing on still further, to near the top of the Coast Range, just back of the college grounds, and at an elevation of nearly a thousand feet above the sea, he will then again strike the current of air from the ocean, which has come in at an elevation too high to be affected by the topography of the ground which we have described, and, therefore, continues on in its direct course until it dies out and mingles with the great atmospheric ocean; precisely as a mountain torrent debouching suddenly into a body of still water, gradually loses its impetus and mingles with the surrounding fluid. The air below may be compared to the still water in the bottom of a large mill pond; while the force of the current urges forward the surface-water to the brink of the dam, that portion near the bottom remains at almost perfect rest, with merely sufficient disturbance to make such a gradual change of its volume as shall suffice to preserve its purity. In the case of our atmospheric current, the Coast Range of mountains serves the purpose of the dam, aiding the other causes to which we have referred, in producing the atmospheric quiet in this remarkable locality.

After carefully considering the above, the reader will have no difficulty in divining the cause of the peculiar isolated climatic condition of the locality which has been selected for the college site. Indications are abundant in the nature and appearance of the soil, which shows that this spot, as well as quite an extensive strip of territory along the foothills, was once covered with a luxuriant growth of arborescent vegetation, which might readily be renewed with a little care. The ancient timber growth still continues along the line of the river, where it has been protected from the rav-

ages of fire; and some small experiments seem to prove that with a very little care, trees, even such as require a large excess of moisture, may be made to flourish upon the greater portion of this tract without the aid of artificial irrigation, except at the start.

One of the peculiar features of this locality, is a deep gorge which penetrates to quite a distance from the foot of the mountain, furnishing numerous springs, which, uniting near its mouth, pass out into the plain, forming a most picturesque and beautiful glen, filled with a heavy growth of forest evergreens, interspersed with a great variety of shrubbery, and in the spring decked with innumerable flowers.

Prof. Wood, the distinguished botanist, who recently visited the locality, pronounces it one of the most remarkable, and the richest in botanical productions, which he has met with throughout the whole coast, from Los Angeles to Oregon.

There is a tract of country here which comes under the influences above described, and which consists of eight or ten square miles, the center and key of which is the college site. This locality must soon be sought after by persons desirous of pleasant suburban residences, for such can be found here, possessing attractions unequalled by any locality even among the most delightful retreats of the Atlantic States. No where else in the wide world, that we are aware of, can such a desirably uniform climate be found, combining all the delightfulness of a temperate zone, without even a touch of its frigid winters, with the benedictions, the fruits and the flowers of the tropics, entirely divested of their malarious atmospheres, their burning suns and their scorching winds.

The time is not far distant when we shall have large numbers of wealthy families who will seek for just such retreats from the hustle of the city. There are even now those among us who are looking around for localities suited to family and neighborhood life, in accordance with the high scale of civilized society to which this city is fast approaching. Already we have quite a list from among those of our citizens standing highest in social position, who have signified their choice of this locality as their point of retreat, either immediately or after a few more years of continuance in the active duties of commercial life. Another year will witness the erection of quite a number of residences, to be soon thereupon followed by constantly increasing numbers. The College will soon follow, and its establishment there will generate around the new community a literary atmosphere, which added to the refinement of a select population, will impart fresh attractions to the hallowed and honored name of BERKELEY, which has been most appropriately applied to this pioneer seat of learning on the Pacific Coast. Those of our citizens who are thinking of providing for themselves a home outside of the city, where they can spend in quiet the declining years of life, or enjoy a more quiet present than the bustle of the city will permit, should by all means take a look at the place we have described.

EXPERIENCED MINE WORKERS.—We need in this country, and especially at the present time, more intelligent, experienced and honest working mine superintendents; men, who, from education, observation and practice, have a thorough knowledge of minerals, and the various modes of treatment to which they should be subjected, according to their peculiar characteristics. We want mine and mill superintendents, whose practical knowledge will enable them to avoid the expensive errors into which so many have been led from mere theoretical knowledge, or worse still an entire lack of any knowledge whatever of that which they have assumed to be able to direct. So much imposition has been practiced upon mine holders, by pretentious scientific superintendents, charging enormous salaries while living fat and leisurely, that men of real merit have come to be appreciated for less than they should be. There are thousands of mines in this State, the profits of which could be doubled by employing proper overseers; and doubtless the holders would seek such help, if they could have any assurance of securing good men, at reasonable rates. We believe an advertisement in our issue of to-day, furnishes the address of such a person.

SINGULAR EFFECTS OF CONCUSSION.

During the recent experiments made in New York, by Col. T. P. Shafter, by order of the Secretaries of War and Navy, two pieces of wrought iron shaft, each piece about five feet, long and twelve inches in diameter, were perforated with a bore fifteen inches deep and an inch in diameter, in one end of each. A plug was then fitted to screw tightly into the muzzle of each. One of these pieces was charged with nitro-glycerine, and fired through a vent-hole in the plug. The plug was forced from the orifice. The second was also charged with nitro-glycerine; but tamped with loose earth. On being fired, the piece was burst into three prongs, being thus split to the base of the drill-hole.

The most singular circumstance connected with this latter experiment, was the reported remarkable fact that the disrupted iron, when subsequently examined, was found to have been crystallized, and, to a considerable extent, restored to cast iron!

The bore of the first piece was then deepened to twenty inches, and charged with twelve ounces of nitro-glycerine, the aperture closed by a screw three inches deep and the charge fired. This piece was also burst, and the same appearances of crystallization appeared at the lines of disruption, as were noticed upon the one previously burst.

These phenomena of change in the structure of the iron, under the circumstances named, are certainly most remarkable, if all the facts have been reported, and correctly stated. The change in the structure of iron caused by long continued percussion is well known; but we have never before heard of a case where any perceptible modification has been effected by a single impact, either from explosives or from any other source. The case is so remarkable, that before giving full credence to the results claimed, we should desire to learn the history of the two pieces of wrought iron employed in the experiments. To what use had they been previously applied? Perhaps they might have been long used as steamboat shafts, or for driving by iron gearing, heavy machinery. If so, the constant and long continued percussion communicated by the paddle or heavy gearing might have gradually produced the change noticed, immediately after the nitro-glycerine experiment.

There are many other similar uses to which these two pieces of iron might have been put, that would have brought about the results alluded to, as it is intimated in the account before us, that they were pieces of a wrought iron shaft. Indeed the very hammering of the iron in the process of forging might have produced a sensible degree of crystallization. It is said that so much importance is attached to this phenomena that the broken fragments have been placed in the War Department at Washington, to serve as evidence of this new and remarkable scientific development. Would it not be well, before accepting, as real, the molecular change alluded to, to examine carefully the structure of the opposite and solid ends of the pieces of iron, if such examination has not already been made? This proposition is made on the assumption that the crystallization, which must have been instantaneous, could not have been continued through the entire mass. If it was not, the crystallizing effect of the explosion upon those parts which received the impact more direct, must be accepted at once.

Again, there seems to be a tendency in all such powerful explosives as nitro-glycerine, gun-cotton and fulminates of every description, to refuse to obey the general law of resistance, which requires a body to pass along the line of least resistance—for instance, in case of gases escaping from a crystallized body, they should find their exit along its planes of crystallization; in case of an uncrystalline structure, along the line of fibrous adhesion. It is well known that fulminating powder, when fired on an open thin iron plate, like a fire-shovel, for instance, instead of obeying the law of following the direction of least resistance, will often pass downward directly through the iron. Gun-cotton, when fired in front of a strong wall, will often find its way backward through that wall,

instead of expending its entire force forward and upward, as gunpowder would do under the same circumstances. Then may it not be that in the New York experiments, the terribly active power brought into action, completely ignored the molecular structure of its opposing walls, and instead of passing out between the lines of fibrous structure of the wrought iron as gunpowder would have done, completely ignored those lines of least resistance, and found its way out, on the same principle that electricity makes its way, zigzag, through the atmosphere, thus rendering the iron at the points of separation crystalline in appearance only? Have the fragments been subjected to an ordinary breakage, since the experiments, to ascertain whether the entire mass is crystalline? Experimenters have no right to assume anything. Possibly all our suppositions, and more, may have been considered and acted upon. We respectfully submit the above suggestions for what they are worth.

CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, cristallites, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

J. ALDEN SMITH, of Spanish Bar, Colorado Territory, sends us an amethyst of exceedingly delicate tint, a piece of mass agate, and two specimens of what he conceives to be meteoric iron. These specimens are alluded to in a communication from Mr. Smith, which will be found in another column. We are inclined to think he is mistaken with regard to their being of meteoric origin. It is quite possible that the original mass may be a boulder of mineral. A mine yielding an ore quite similar to that before us—a sulphide of iron and nickel, was worked in 1851 upon the estate of the Duke of Argyll, in Scotland.

Since the above was in type, we have received the September number of *Silliman's Journal of Science*, in which we perceive two notices of what is evidently the same "meteorite," (?) from which the specimens above alluded to were taken; although the specimens there described do not seem to be identical in character with those in our possession. The color, an important item in connection with the identity of this mineral, is not given in that journal. The specimens forwarded us present a bronze yellow appearance, excepting the oxidized exterior, which is deep bronze, an ore, which we are assured, closely resembles, in external characters, the mineral which we have described above as found in Argyleshire. The characteristic features of meteoric iron, as described by Mr. Shephard in *Silliman's Journal*, are not visible in the specimens before us. In fact the two specimens sent to us do not present any metallic appearance; but merely that of mineralized metals, such as many of the sulphides, which leads us to infer that the broken pieces could not have been derived from a meteorite. If subsequent investigation establish the latter to be the fact, we can only say that it differs, in every external point, from any meteorite which we have either seen, or heard or read of.

THOMAS STARR, our traveling correspondent in Nevada, sends us some specimens of a very peculiar ore found in the lode described by our Virginia City correspondent, in the present issue. This ore is of a light brown color, and very much resembles in appearance a partially decomposed syenite; it really consists, however, of about 84 per cent. of lime, 14 per cent. of silica, with the balance of two per cent. made up of alumina, per oxyd of iron, oxyd of manganese, with traces of alumina, sulphur, chlorine, gold and silver. The character of the ore is very similar to that of the celebrated Copiapo silver mine of Chile. We believe it is the only mine yet discovered on the Pacific Coast, carrying a gangue of this character. It is a kind of ore that not one prospector in a hundred would think of looking at; yet it is doubtless very valuable. It is but little harder than decomposed copper gossan; hence it is very easily reduced under the stamp. Its silver is carried chiefly as a sulphide; its gold is free, but very fine. Miners will do well to read carefully the letter of Prof. Rickard, descriptive of this mine, which will be found in another column. Samples of the ore may be seen at this office.

LIST OF OFFICERS OF CORPORATIONS AND MINING COMPANIES.

[PUBLISHED IN THE FIRST ISSUE OF EACH MONTH.]

(Below we give the date of recent meetings held in this city, and the names of officers chosen or appointed. Every bona-fide company is invited to send us the result of their election, to be thus put on record, gratuitously, with any other facts of general interest.)

GEORGE WASHINGTON G. & S. M. Co.—Sept. 17th. Trustees: W. D. Root, J. H. Gilmore, A. G. Wood, T. B. Townsend, I. W. Clark. President, W. D. Root, Secretary, A. G. Wood; Gen. Superintendent, J. H. Gilmore.

INDEPENDENCE COAL M. Co.—Sept. 28th. Trustees: A. Bleck, Jos. Brandenstein, E. L. Gohstein. President, Wm. W. Greenhood, Secretary, W. Waterman; Treasurer, Jos. Newbauer; Superintendent, Robert Wingate.

SANTA CRUZ PETROLEUM OIL WORKS.—Oct. 2d. Trustees: Leander Ransom, E. Winship, Austin Walrath, N. C. Walton, J. Martenstein. President, Col. Leander Ransom; Vice President, E. Winship; Secretary, R. Wegener; Treasurer, Austin Walrath.

SEATON M. Co.—Sept. 12th. Trustees: Lloyd Feris, J. W. Gashwiler, C. J. Hutchinson, D. M. W. Seaton, Wm. Thompson. President, Lloyd Feris; Secretary, Joel F. Lightner; Superintendent, J. R. Robertson.

TELEURIUM G. & S. M. Co.—Aug. 27th. Trustees: T. W. Brennan, G. W. Ryder, G. S. Hall, W. H. Hyda, J. R. Maad. President, T. W. Brennan; Secretary, Wm. G. Ryder.

RECENT INCORPORATIONS.

BUILDERS' INS. Co.—Capital stock, \$50,000; 500 shares of \$100 each. Directors: A. Rosenfield, Thos. Mooney, Samuel Crim, Nathaniel Page, John Dunn, J. W. McCormick, W. G. Weir, Jas. D. Connell, W. A. Jank. Sept. 21.

LAFAYETTE PARK HOMESTEAD ASSOCIATION. Capital stock, \$14,000; 40 shares of \$350 per share. Trustees: Edwin Goodall, Geo. T. Vincent, John M. Todd, John W. Brumagim, J. L. Jones, Wm. Hellis, Edward Barry, John W. Nye, Henry Mahau. Sept. 10.

OAKLAND CENTRAL HOMESTEAD ASSOCIATION.—Capital stock, \$64,000; 80 shares of \$800 each. Trustees: Elijah Bigelow, T. B. Bigelow, William W. Crane. Sept. 1.

REAL ESTATE ASSOCIATES.—Capital stock, \$120,000 (with right to increase the same to 400,000); 200 shares of \$600 each. Trustees for the first three months: J. L. Jones, W. E. Wood, W. Hollis, E. Barry, L. S. Pease, H. H. Russell, J. A. Eaton, T. S. Russell, J. W. Jordan, H. K. Morse, G. R. Spinney. Sept. 28.

SAN MATEO WATER CO.—Capital stock, \$1,000,000; 10,000 shares of \$100. Trustees for the first three months: Wm. E. Barron, F. D. Atherton, Thos. H. Selby, Simon M. Mazes, Benj. G. Lathrop. Principal place of business, San Francisco. Sept. 27.

SAN FRANCISCO KAOLIN M. & MANUFACTURING CO. Capital stock, \$80,000; 800 shares of \$100 each. Trustees: A. J. Sayder, M. S. Whiting, Joseph Mosheimer. Principal place of business, San Francisco. Sept. 29.

SAN FRANCISCO FUEL CO.—Capital stock, \$100,000; 1,000 shares of \$100 each. Trustees: Samuel Tyler, Marshall Hastings, William Doolan, W. P. Dewey, Chas. M. Tyler. Principal place of business, San Francisco.

TRIO MINING CO.—Capital stock, \$500,000; 5,000 shares of \$100 each; Gen. W. S. Rosecrans, A. Hayward, Oscar L. Chamberlain. Sept. 28.

TOWNE & BACON, Print—

Stock Certificates, Assessment Receipt Books, Transfer Journals, Circulars, Hand Bills, Cards, Billheads,

And every kind of Job Work that may be desired.

A NEW ARTICLE BY TAGS FOR GROCERS' USE.

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To Miners and Families Living in the Country.

Dr. Boynton's MEDICINE CHEST, is put up in San Francisco expressly for the use of families, and consists of a chest of moderate dimensions, neat in its appearance, containing those household articles, simple remedies, that families always feel like keeping on hand for immediate and common use, and a book of brief instructions, describing their use.

The object in preparing this Chest was not to make doctors, but for the simple purpose of nursing; hence, a majority of the remedies are such as are familiar to nearly all who are advanced in life, and the book is simply a representation of those plain truths relating to the department of the nurse already set forth in more extensive works. It was the object, not to say many things, but to say few things—to simplify and make plain for common use. And in selecting the contents of the Chest, the object was not to set forth something new and wonderful, but those of old and acknowledged worth.

In view of the above facts, physicians have everywhere encouraged the circulation of this chest in unmistakable terms. They recognize the fact that families do not, will not, need not call on them on the occasion of every slight derangement or infirmity. They do not and cannot deny the fact that such obligations of home care rest upon heads of families.

The book gives a description of nearly every medicine in the collection, their use, and their component parts, so that every person may know what he is receiving into his stomach or applying to his person. This openness and frankness is regarded by the best practitioners, and all considerate persons as justice, more than policy. The universal conviction of the more thoughtful is, that that which relates to our health and physical well-being in this life should, above all things, be known, and not kept in the darkness of secrecy.

In introducing this chest in the country, we always first submit it to the criticism of practicing physicians, and feeling the importance and seeing the necessity in this sparsely settled country of home-nursing, and seeing the adaptability of this chest, physicians in San Francisco, Sacramento, Stockton, Knight's Landing, Cacheville, Marysville, Colusa, Oroville, Lincoln, Folsom, and Auburn, have given it their hearty sanction. Seeing the necessity on this coast of people relying upon themselves in such matters, physicians in this State have remarked: "If I could choose but one for a family, I would every time choose the nurse instead of the physician." "If families would get a collection of simple remedies, with plain instructions for their use, they would do away with half the doctoring." "All families should possess themselves of a collection of common remedies, with plain instructions for their use." "I would like to see the chest in every family"—"it is a convenience"—"it is useful"—"much sickness and much expense might be saved by such home care."

We submit the following statistics from Sutter County, California:

"The undersigned have had Dr. Boynton's Medicine Chest in their families for the last few months, and willingly state that they regard it as a wise provision, strictly practical and highly useful."

Every person having the chest in the above named county has signed the above article. The publishing of the names being unnecessary, we withhold them and save space.

The undersigned have known Dr. Boynton's Medicine Chest for the last few months, and regard it as a wise provision, and highly useful in every family. The medicines being put up with instructions, its utility, convenience, and great economy are unquestionable.

Signed by Judge HURLBURT and 45 others.

STATE OF CALIFORNIA, } ss.
County of Sutter, }
I, C. E. Wilcox, County Clerk in and for said County, hereby certify that I am personally acquainted with a majority of the individuals whose names are subscribed to the foregoing certificates, and that they are good and substantial citizens of said County.

Witness my hand and official seal this 27th day of [L.S.] December, A. D. 1865.

C. E. WILCOX, County Clerk.

Agents wanted in every County to sell this Family Chest. The compensation will be a liberal commission on all sales. The Agent should be a resident of the district which he is to canvass, and accompany his application with good references, and of this city if possible.

We can give further particulars when desired.

All letters should be addressed through the post office, to

E. NORRIS,

San Francisco.

Pacific Mining Agency.

ALMARIN B. PAUL,

N. E. cor. California and Kearny sts., up stairs, 14x13 m SAN FRANCISCO.

MOUNT DIABLO COAL.

CHEAP FUEL!

Cheaper than the East.

From the Independent Mine, at \$10 per ton.

GREENHOOD & NEUBAUER,

Nos. 207 and 209 Sansome street, between California and Pine.

Quartz Mill Construction and Superintendence.

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. He has had five years steady and successful experience in working ores in Wales, and is practiced in saving sulphurets and the treatment of rebellious ores. He is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address F. M. SHAW, San Francisco, care Mining and Scientific Press. 14x13-1m

A NEW BANDAGE FOR WOUNDS.—A private letter from Baden says that a Colonel now stationed in Baden has just drawn the attention of the Government to a new invention of French origin. "It is a kind of bandage for wounds with a solution of lime. Experiments have been made with this healing lime at Strasburg with great success. The principal advantages seem to be: 1. A saving of time, as four wounds may be dressed in the same time as one with the ordinary proceeding. 2. An accelerated process of healing, as no other bandages or plasters are required, and the air is completely kept out. Moreover, the expense is very small, and great cleanliness is possible; the patient can take care of himself, and the apparatus is so small that one surgeon can carry about him the necessary material for hundreds of patients. I suppose the medical papers will soon give detailed information to the profession. It seems that the inventor, whose name is Millot, has patented his invention, but at the same time has offered it to all the Governments—I suppose for a consideration."

DISCOVERY OF LITHOGRAPHIC STONE.—The *Flag* of this city, says: "We have in our possession a specimen of stone taken from a ledge in Mariposa county, that for home or lithographing purposes is pronounced equal to most of that imported from the East. The stone is of a grayish white color, hard as flint, of very fine grain and susceptible of a high polish. It has sufficient grit to render it an excellent substitute for the Michigan stones now in use. Mr. Eston, one of the discoverers of this substance, says that the ledge, so far as discovered, extends three miles in length by one in width; extensive enough, surely, to supply the world. They have named it the 'The American Flag.'"

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MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.
WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.
KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-1f

GLOBE
Foundry and Machine Shop,
STOCKTON, CAL.

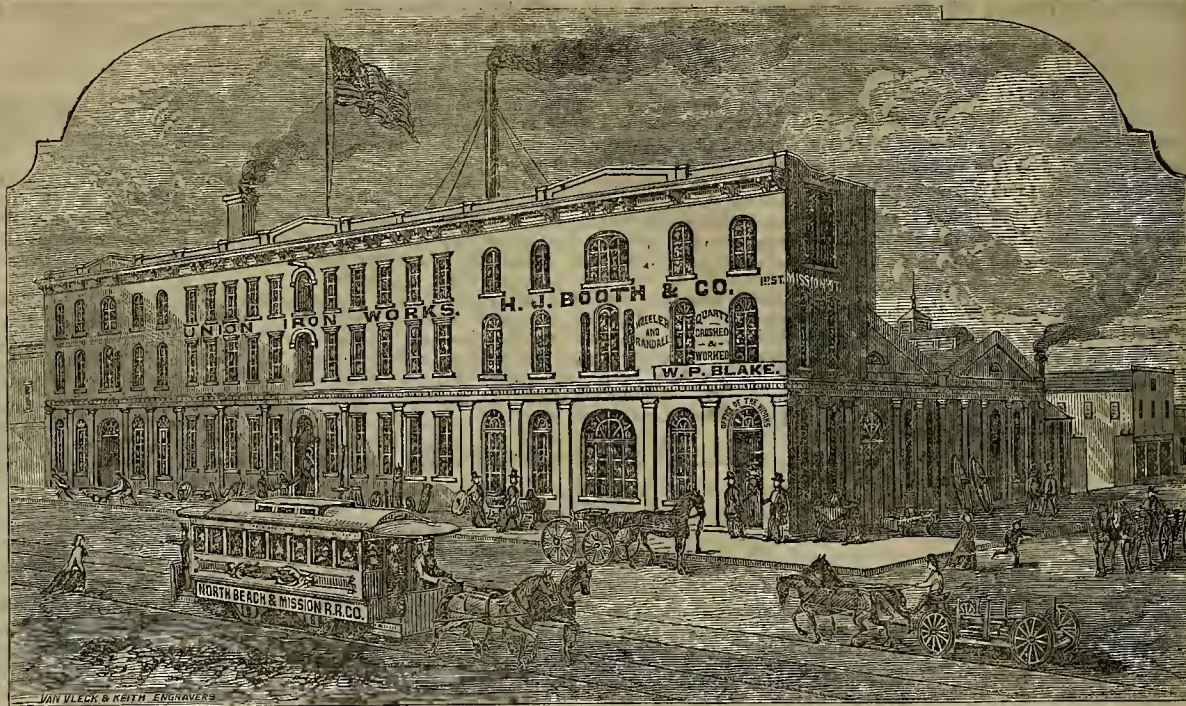
KEEP, BLAKE & CO.,
MANUFACTURERS OF
Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed. 13v13-1y

Pacific Forge Company.
FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST RECEIVED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12-3m

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done. **M. PRAG,** 8v13-1y Stove Store, No. 125 Clay street, below Davis.



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hay, Bag, Screw and Drop Presses, Coining Machinery, Filo Drivers, Barks and Malt Mills, and all kinds of Castings.
ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.
BOILERS.—Locomotive, F.A.C. Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.
PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Wakle's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS,** of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.
H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT.

H. J. BOOTH & CO.

Vulcan Iron Works Company
(ESTABLISHED 1850.)
First, Natoma and Fremont Streets.

IRON FOUNDERS,
Steam Engine and Locomotive BUILDERS.
Boiler Makers, and Workers in Sheet Iron, Brass and Copper.

These Works have lately been increased by the addition of new shops on Fremont Street, doubling the capacity of the original establishment. Their facilities for turning out machinery promptly and efficiently, are now unequalled in the State. Their Boiler Works have also been enlarged correspondingly.

The Company are prepared to execute orders for all classes of Machinery and Boiler Work, such as

Mining, Steamship, and Steamboat Machinery,
Railroad Machinery, Flouring Mills, Locomotives, Quartz Mills, Car Trucks, Sugar Mills, Car Wheels, Saw Mills, Houses and Irons; and
Manufacturing Machinery of Every Kind.

Sole Manufacturers of

HEPBURN & PETERSON'S REDUCING PAN AND AMALGAMATOR
BEATH'S AMALGAMATOR.
HESE & MOORE'S IMPROVED HOWELL QUARTZ CRUSHER.
BAUX & GUIOD'S AMALGAMATOR AND SEPARATOR.
FAUCHER'S QUARTZ GRINDER AND WATER WHEEL.
JOHN'S IMPROVED WATER WHEEL.
LEFFEL'S AMERICAN DOUBLE TURBINE WATER WHEELS.
STEVEN'S PISTON PACKING RINGS.

They have also a large assortment of Patterns for Pumping and Hoisting Machinery, Gearing, Pulleys, Water Mill Irons, Hydraulic and Screw Presses, Retorts, Furnaces, Gate Bars, House Fronts, Ornamental Fence Posts and Paving, Stove Ranges, etc., etc.

Quartz Stampers, Shoes and Dies, of the best Hard Iron, Quartz Screens, of Russia Iron Panned to Order. 27

GEORGE T. PRACY,
MACHINE WORKS,
Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.
Special attention paid to Repairing. 4y-3

T. G. DUNNING. J. F. FISHER.

PACIFIC FILE FACTORY,
No. 53 Beale Street,
Between Market and Mission streets, San Francisco.

FILES BECUT AND WARRANTED AS GOOD AS NEW, or no charge. The only establishment in the State. We also manufacture Reaper and Mower Sections. 8v13-1y **DUNNING & FISHER, Prop'rs.**

LEWIS COFFEY & RISON,
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

THE MINING PRESS has entered upon its thirteenth volume. It is a valuable publication in its sphere, and its sphere is a large and important one. —[Marysville Appeal,

HANSCOM & CO., {T. PENDERGAST,
H. S. SMITH. { W. W. HANSCOM.
Etna Iron Works!

Southeast corner Fremont and Tehama streets, SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grader and Amalgamator,

Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,
Giving greater power, at lower cost, than any wheel in use. See for one of our circulars, giving full tables.

All Wheels warranted to give the lower as set forth, or the money will be refunded.
Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies."

None genuine unless obtained from us. Every one warranted.
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited. 19v12

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,
Quartz, Flour and Saw Mills,
Monre's Grinder and Amalgamator, Mining Pumps, Amalgamators, and all kinds of Machinery.

Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco. 2-y

NEPTUNE IRON WORKS,
Corner of Mission and Fremont Streets, SAN FRANCISCO.

MARINE
Locomotive,
And all kinds of
HIGH PRESSURE
Steam Boilers
MADE.
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.
All kinds of Sheet Iron and Water Pipe, Coal Oil Sills, Wrought Iron Worms, etc., etc. Manufactured to Order.
Old Boilers Repaired.
D. CAMERON.
6v12-1y

UNION IRON WORKS,
Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF

STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston PACKING, for new and old Cylinders, manufactured to order.
Front Street, between N and O streets, 14v11 SACRAMENTO CITY

SAN FRANCISCO
Foundry and Machine Works,
N. E. Cor. Fremont and Mission streets, Manufacturers of

Marine and Stationary Engines!
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.
—ALSO—
Wine, Cider, Cotton and Tobacco Presses of the latest Improved Patterns.
Brodie's Improved Patent WIND BLAST SEPARATOR, for Dry Crushing; Baux & Guio's Amalgamator and Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston-Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.
6v11-1y **DEVOL, DINSMORE & CO**

JAMES MACKEN,
COPPERSMITH,
No. 226 Fremont st., bet. Howard & Folsom
All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.
Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S
Steam Engine Works,
Beale street, near Mission, San Francisco.
STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive.
HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DONKEY PUMPS, Etc., Etc., Etc.
The attention of the parties engaged in shipping or inland navigation is called to the
Superior Workmanship
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.
Screw Propellers of all kinds and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 25v12-3m

Brevities.

On the morning of Sept. 11th, the snow was eight inches deep in South Park, Colorado.

A coal area of more than 26,000 square miles exists in the northern and western part of Missouri.

From the beginning of the vintage of 1865, to the present time, seventy-five thousand gallons of grape brandy have been made in Los Angeles county.

One of the plans suggested for the tunnel under the English channel is, that of sinking an iron tube for the trains to pass through, the tube itself to be suspended by buoys in the channel.

A new material for paper has been patented by a New Jersey man. It is sedge grass, and grown upon tide flats. It is said to be an excellent substitute for cotton or linen rags. The paper made from it costs 20 per cent less than any other.

SOME American fishermen, while off the Farallones last Sunday, captured an enormous sun fish, which they found sleeping on the surface of the water. A tackle was rigged, and the monster hoisted on board. He was found to weigh 633½ pounds.

It is said that the portion of Illinois bounded by the Ohio river appears to be filled with lead veins thirty to fifty yards apart, and yielding ore in paying quantities. These veins begin about thirty feet below the surface, and have been traced down to the depth of 1,600 feet, becoming richer the deeper they descend.

AMERICAN VINE.—Ten years ago there was not more than three or four thousand acres planted with the vine in the United States, and now there are no less than two million acres so planted. Formerly American wine would scarcely bring one dollar per gallon, and now it sells at from two to six dollars per gallon.

A new product of the Butte county pine forests has made its appearance in the San Francisco market. It is an oil, which is distilled from the hackmatack. It is colorless, of an agreeable odor, and as light as camphene. It is used for cleaning silk and other delicate fabrics from grease, etc. It sells for two dollars per gallon. A Mr. Harrison is reported to distill 150 gallons per month.

An engineer in a mill in Philadelphia had been told that a steel spring might be effectively tempered if, while red hot, it were immersed in petroleum. He heated the steel and plunged it into a bucketfull of coal oil. The result was an explosion; and a conflagration was prevented only by the use of the donkey engine and hose.

Gold was discovered about a year since, near Lisbon, New Hampshire, by a gentleman who was making a tour to the White Mountains. He took specimens to Boston, had them assayed, found them rich, and formed a company of Hartford and Springfield merchants, which purchased the property in which the ore was found. The stock, worth a year ago \$5 a share, now sells for \$5,000. Some of the quartz is said to yield \$867 of gold, and \$150 of silver, per ton.

WM. H. KEITH & CO., Chemists and Apothecaries, etc.

PROPRIETORS AND MANUFACTURERS OF
WM. H. KEITH & CO.'S WINE OF PEPSINE, OR RENEWET WINE, a new and efficacious remedy for Dyspepsia, Catarrhs, etc. WM. H. KEITH & CO.'S GLUCOLIN, a new and valuable compound of Cod Liver Oil, put up in capsules. WM. H. KEITH & CO.'S LEMON APERIENT, or Purgative Lemonade, an agreeable, cooling and active purgative, or mild laxative, as required. WM. H. KEITH & CO.'S SAPHORACIOUS TOOTH POWDER, DEVINE'S PITCH LOZENGES, for the cure of coughs and colds. WM. H. KEITH & CO.'S Mucilage Tooth Wash. WM. H. KEITH & CO.'S ORANGE EFFERVESCENT Citrate of Magnesia. WM. H. KEITH & CO.'S Rosemary and Castor Oil Hair Lotion.

WM. H. KEITH & CO. being in frequent communication with Eastern and European markets, are continually receiving their stock of Pure Drugs, Rare Chemicals, Fancy Soaps, and Toilet Articles, Pure Oils, etc. They also give special attention to replenishing ship medicine chests.

Also, just received, a large and well-selected invoice of BERNSTEIN'S CELEBRATED LAXATIVE, consisting in part of Amputating and Obstetric sets, Pocket Cases, etc. Physicians and others at a distance ordering goods from us, can depend upon having their orders filled with the same care and promptness, as though ordered in person, and we give particular attention to packing and forwarding the same.

WM. H. KEITH & CO.,
Apothecaries' Hall, No. 521 Montgomery street,
Between Clay and Commercial, San Francisco.

California Steam Navigation COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE.
" CHRYSEPOLIS.....CAPT. A. FOSTER.
" YONEMITE.....CAPT. W. BROMLEY.
" CORNELIA.....CAPT. E. CONKLIN.
One of the above steamers leave BROADWAY WHARF
at 6 o'clock P. M. EVERY DAY (Sundays excepted), for
San Francisco and Stockton, connecting with light-draft
tugs for Marysville, Colusa, Chico, and Red Bluff.
Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA,
MEXICO, and SENAPAC, leave, as advertised, for Honolulu,
Portland, Oregon, New Westminster, British Columbia,
Victoria, V. I., Santa Barbara, San Pedro, and San Diego.
Office of the Company, northeast corner of Front and
Jackson streets.
J. M. HARTSHORNE,
President.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

International Hotel, JACKSON STREET, BETWEEN MONTGOMERY AND KEARNY STS., SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House free of charge, and to any part of the city for 50 cents.

2112 F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL, K Street, between Third and Fourth, SACRAMENTO, IS NOW ONE OF THE LARGEST AND MOST ELEGANT Hotels in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new, furnished, large and finely ventilated. No expense has been saved to make it comfortable and pleasant for guests. Price of Rooms very low. Meals, 25 cents. 812-6m B. EISENMENGER.

WHAT CHEER HOUSE, SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets,
opposite Steamboat Landing.
Meals, 25 cents.
Board, per week, \$4.00
Board and Lodging, per day, 1.00
Single Rooms, 50 cents
Railroad Ticket Office and Stage Office on first floor.
712-3m A. J. SEATZ, Proprietor.

Rheumatism !! ANOTHER WITNESS!

SALMON FALLS, June 17, 1866.
H. BOWMAN—DEAR SIR: HAVING HAD A FAIR test of the virtues of RICHARDS' REMEDY for Rheumatism, I take great pleasure in stating that its effects with me have been even better than its recommendations claim. In 1863 I first heard of the Rheumatism of agents who have been severely afflicted with Rheumatism, and having tried everything I could hear of, without any permanent benefit, I concluded to try this also. On taking the medicine in three days I experienced great relief, and in one week was entirely free from pain, and had completely recovered the use of my limbs, which had become almost powerless. I have recommended RICHARDS' REMEDY to numerous friends, and in every case it has proved successful. I therefore take great pleasure in recommending it to all who are afflicted with Rheumatism, and especially to all mercurial chronic Rheumatism cases.
Yours respectfully,
ERASTUS PARSONS,
President of the Gen. Grant Mining Company.

RICHARDS' REMEDY is for sale by
H. BOWMAN,
Druggist, Sacramento. 1113
Price, \$2.50 per Bottle.

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the procrastination of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of these agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the regulations of the Department, and properly filed all necessary papers as Claim Agents.

HAYWARD, COLEMAN & CO., IMPORTERS AND REFINERS —OF— Illuminating, Lubricating, —AND— PAINT OILS!

CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR,
TANNERS', NEATFOOT, BOILED AND RAW
LINSEED, CASTOR AND CHINA NUT.

—ALSO,—
SPIRITS OF TURPENTINE & ALCOHOL.

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This oil will not gum Machinery, thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.
A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!
An elegant and complete assortment on hand. 413-3m 414 Front street, San Francisco.

THE CALIFORNIA Aerated or Unfermented BREAD COMPANY.

Bakery on Folsom Street,
Between Tenth and Eleventh.....SAN FRANCISCO

MESSRS TAGGART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in partnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit all orders for their truly wholesome and cleanly Bread. We have a sufficient number of delivery wagons, at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.

Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention:
Order box at C. J. Hawley & Co.'s Grocery, corner Second and Jessie streets; Rowland & Walker 647 Clay street; Plum's Carpet Store, Montgomery street, opposite Lick House; G. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the route-men likewise. We expect soon to be prepared to supply Pastry. Hence the Boston Brown Bread, and Beans of the first quality. Due notice will be given.
The present Company is entirely independent of the former California Cereals and Bread Company, neither of them having been in any way connected with that company.

We would cordially invite the public to make a visit to our new bakery.
413-3m S. R. BULKLEY, Business Partner.

RADICAL CURE —OF— RUPTURE!

Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process, 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU

Has his studies and manufactures in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.

He has no connection with any Agency. 813-411p

Our Circulation.—THE MINING AND SCIENTIFIC PRESS has a large and permanent subscription list, and enjoys a more universal circulation among stockholders and persons directly interested in mining than any other paper on this coast.

Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADELRO & RAYMOND, No. 90 Broadway, New York. 1111

G. W. MAYNARD. J. H. TIEMANN.
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
240 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.
1812-1y

Copper, Lead, Gold, Silver, Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates at interest. For particulars apply to

THOMAS PRICE,
Agent for Townshend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.
Special attention paid to Gold Bearing Sulphurets. 1510-3m

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Bushell for the sale of a COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to
JOHN N. RISDON,
2112 At Coffey & Risdon's, San Francisco.

MARTIN & CO., Office, Stevenson House, Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE
PURCHASE OF COPPER ORES.
Assaying eight per cent, and upwards of Copper to the ton. We will make advances upon Ores of Copper.
San Francisco, Post Office Box 1266. 22

PACIFIC CHEMICAL WORKS —AND— ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of Manufacturing Chemicals, Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FALKENAU & HANKS,
Laboratory, corner Folsom and Center streets,
Mission Dolores,
Office, 629 Washington street, San Francisco. 2112-1m

EUROPEAN METALLURGICAL WORKS, —AND— Practical Mining School, Bryant Street, between Third and Fourth, SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work, or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphurets, pyrites, and the so-called "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.
S. F. KIMBALL, J. R. MURPHY.
1010-1y

JOHN TAYLOR & CO., IMPORTERS, —AND DEALERS IN—

ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention to select such articles as are necessary in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.

San Francisco March 6, 1865. 1110-1f

By Express.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co.'s tariff) on papers sent by express. If connecting express in the interior make additional charges, subscribers must themselves settle the same.

Trades and Manufacturers.

WM. BARTLING. HENRY KIMBALL.
BARTLING & KIMBALL,
BOOK BINDERS,
 Paper Rulers and Blank Book Manufacturers.
 505 Clay street, (southwest cor. Sansome),
 15v12-3m SAN FRANCISCO.

JOHN DANIEL,
 (SUCCESSOR TO O. GORI)
MARBLE WORKS,
 No. 403 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Planners' Slabs
 Etc., On hand and Manufactured to order.
 Goods shipped to all parts of the State. Orders re-
 spectfully solicited. 5v8-3m

NATHANIEL GRAY,
 General Furnishing Undertaker,
 641 Sacramento St., corner of Webb, San Francisco.

Barnstow's Metallic Burial Caskets and Cases,
 117

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 Maker of Models for Inventors.
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 SOLE MANUFACTURERS OF THE CELEBRATED
H. & L. AXLE GREASE,
 Natoma Street and North Beach,
 SAN FRANCISCO. 2v13-3m

MANUFACTURERS AND INVENTORS.
 Pacific Patent Agency,
J. H. ATKINSON,
 604 Kearny street, San Francisco. 8v13

F. M. TRUWORTHY,
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 Attorney and Counsellor at Law,
 COURT COMMISSIONER, appointed by the Fourth District
 Court, COMMISSIONER OF DEEDS for Nevada
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 Entrances opposite City Hall, Merchant street, and 536
 14v11tf Clay street.

DR. H. AUSTIN,
DENTIST,
 No. 634 Washington Street,
 Between Montgomery and Kearny Streets
 [OVER SAN FRANCISCO BATHS]
 SAN FRANCISCO. 20v10-qy

DR. D. R. BECKFORD,
OCULIST,
 Office of Dr. Beckford's "Golden Eye Water,"
 16v12-3m NO. 719 CLAY STREET.

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 Stock Broker,
 Member of the
San Francisco Stock and Exchange Board,
 Buys and Sells Stocks, Bonds, Etc.
 Office, No. 540 Washington Street, San Francisco. 2v10

WILLIAM P. BLAKE,
MINING ENGINEER,
 Will make Surveys and Examinations of Mines, or give
 advice regarding their working, the erection of Ma-
 chinery, etc.
 Office at Union Iron Works, corner of First and Mission
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 11v22qy

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 No. 57 Montgomery Block, San Francisco,
 Will examine, survey and report upon mines, and consult
 and advise concerning investments in mining property, or
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 2v8-q

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 Association of Artists. Remember the place, 611 Clay
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Endorsement by the Miners' State Convention
 The following resolution was adopted by the California
 Miners' State Convention, held at Sacramento, Jan. 17th,
 1866:

Resolved, That we regard a mining paper or journal of
 great importance to the mining interests of California, and
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 A new, practical and complete Business Course has been
 adopted, differing from that of any other School in the
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 1v13tf

NOTICE!
Union Mattole Oil Company.
 (WORKS: HUMBOLDT COUNTY, CAL.)

ALL Persons are hereby notified and warned
 that to purchase of the following described cer-
 tificates or shares of stock in the Union Mattole Oil Com-
 pany, advertised to be sold at public auction, by Messrs.
 Olney & Co., at No. 418 Montgomery street, San Francisco,
 on Monday, October 16th, 1866, at 12 o'clock, M., of said day,
 under delinquent assessment sale, as ordered by the Trustees
 of the Union Mattole Oil Company. Said assessment and
 sale so far as relates to the certificates and Stock herein
 mentioned being illegal, the undersigned owners of the
 certificates and Stock designated, give this notice:
 James M. Cox, Certificate No. 177, 1 share; F. Ellery,
 Certificate No. 237, 1 share; D. J. Henderson, Certificate
 Nos. 246 and 248, for 40 shares; Andrew Henry, Cer-
 tificates Nos. 81 and 220, for 10 shares; A. H. Hadley, Cer-
 tificates Nos. 23, 25, 26, 27, 28, 29, 133, 134, 135, 136, 137, 138, 139, 140,
 141, 142, 143, 144, 145, 146, and 147, for 120 shares; James W.
 Henderson, Certificates Nos. 194, 195, 196, 197, 199, 205, 206, 107,
 208, 209, 210, 211, and 213, for 24 shares; E. Janssen, Certificates
 Nos. 234, 235, 236, 237, 238, 239, 240, and 241, for 8 shares; B. K.
 Smith, Certificate No. 110, 111, 112, 113, 114, 115, 116, 117, 118, 119,
 120, 121, 122, 123, 124, 125, 126, and 75, for 90 shares; W. H.
 Kenyon, Certificate No. 112, for 2 shares; Wm. Taylor, Cer-
 tificates Nos. 47, 48, 49, and 49, for 20 shares; F. A. Lynn, Cer-
 tificates No. 10, for 4 shares.

James M. Cox, B. Janssen,
 F. Ellery, B. K. Smith,
 D. J. Henderson, W. H. Kenyon,
 Andrew Henry, William Taylor,
 A. H. Hadley, F. A. Lynn,
 James W. Henderson,
 San Francisco, California, October 5th, 1866. 14v13-2w

New Mining Advertisements.

**Arbitros Mining Company, Batopilas Dis-
 trict, State of Chihuahua, Mexico.**

Notice.—There are delinquent, upon the following de-
 scribed stock, on account of assessment (No. 11) levied on
 the thirtieth day of August, 1866, the several amounts set
 opposite the names of the respective shareholders, as fol-
 lows:

Names.	No. Certificate.	No. Shares.	Amount.
M. Hagen.	231	2	2 00
M. Hagen.	231	2	2 00
M. Hagen.	233	3	3 00
A. C. Walt.	229	10	10 00
A. C. Walt.	229	3	3 00
C. Walt.	211	12	12 00
John H. Sievers.	123	15	15 00
John H. Sievers.	199	4	4 00
Henry Weldersheim.	212	12	12 00
Henry Weldersheim.	225	6	6 00
John J. Scutcher.	230	5	5 00
George W. Johnson.	110, 111, 112, 113, 114, 115, 116, 117, 118, 119,	10	10 00
R. R. Stoddard.	93	3	3 00
R. R. Stoddard.	197	1	1 00
R. R. Stoddard.	221	10	10 00
Wm. Gildemeister.	125	5	5 00
Wm. Gildemeister.	130	10	10 00
Wm. Gildemeister.	133	15	15 00
Wm. Gildemeister.	173	8	8 00
Wm. Gildemeister.	227	20	20 00
Wm. Gildemeister.	228	10	10 00
Wm. Gildemeister.	229	4	4 00
Wm. Gildemeister.	234	4	4 00
Wm. Gildemeister.	235	56	56 00
Chas. F. Brown.	208	6	6 00
Chas. F. Brown.	209	4	4 00
Chas. F. Brown.	212	6	6 00
Chas. F. Brown.	218	10	10 00
Chas. F. Brown.	219	4	4 00
J. E. Jorgensen.	54	10	10 00
J. E. Jorgensen.	157	3	3 00
Total.		303	\$303 00

And in accordance with law, and an order of the Board of
 Trustees, made on the thirtieth day of August, 1866, so many
 shares of each parcel of said stock as may be necessary,
 will be sold at public auction, by Maurice Dore & Co., No.
 327 Montgomery street, San Francisco, Cal., on the twenty-
 sixth day of October, 1866, at the hour of 2 o'clock P. M. of
 said day, to pay said delinquent assessment thereon, to-
 gether with costs of advertising and expenses of sale.

A. MARTINSON, Secretary.
 Office, 811 Montgomery street, San Francisco, Cal. ocb

**Assurance Mining Company.—Location: Ocel-
 dental Lode, San Benito Mining District, County of Mon-
 tere, State of California.**

Notice.—There are delinquent, upon the following de-
 scribed stock, on account of assessment levied on the twenty-
 third day of August, 1866, the several amounts set op-
 posite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
O. C. Wheeler.	27	100	\$150 00
C. L. Carr.	1	135	135 00
C. L. Carr.	9	10	10 00
C. L. Carr.	17	5	5 00
W. O. Lincoln.	5	20	20 00
Henry Champlin.	4	20	20 00
E. A. Forrester.	15	24	24 00
A. J. Weaver.	18	30	30 00
Levi Olsh.	14	6	6 00
W. H. Seth.	33	10	10 00

And in accordance with law, and an order of the Board of
 Trustees, made on the twenty-third day of August, 1866, so
 many shares of each parcel of said stock as may be neces-
 sary, will be sold at public auction, by Messrs. Olney & Co.,
 No. 418 Montgomery street, San Francisco, on the twelfth
 day of October, 1866, at the hour of 11 o'clock A. M., of
 said day, to pay said delinquent assessment thereon, to-
 gether with costs of advertising and expenses of sale.

H. H. RUSSELL, Secretary.
 Office, Room No. 4, 302 Montgomery street, San Francisco.

POSTPONEMENT.—The above sale is hereby postponed until
 Monday, the twenty-ninth day of October, 1866, at the same
 time and place. By order of the Board of Trustees.
 ocb H. H. RUSSELL, Secretary.

Consolidated Silver Hill Mining Company.
 Location of Works: Esmeralda District, State of Nevada.

Notice.—There are delinquent, upon the following de-
 scribed stock, on account of assessment levied on the twenty-
 fourth day of August, 1866, the several amounts set
 opposite the names of the respective shareholders, as fol-
 lows:

Names.	No. Certificate.	No. Shares.	Amount.
Garnett L. A.	233	1	\$1 00
Lankersheim Isaac.	338	5	5 00
Lankersheim Isaac.	339	5	5 00
Lankersheim Isaac.	339	10	10 00
Adler C.	416	3	3 00
Barrothet Hy.	575	5	5 00
Cohn E.	510	10	10 00

Names.	No. Certificate.	No. Shares.	Amount.
Levy H.	755	15	10 00
Levy H.	776	10	10 00
Mayer Simon.	829	2	2 00
Mayer Simon.	838	20	20 00
Cohn E.	867	10	10 00
Mayer Simon.	883	13	13 00
Cohn E.	873	10	10 00
Mayer Simon.	876	4	4 00
Mayer Simon.	881	7	7 00
Higgins & McMullin.	949	1	1 00
Murray, Isaac.	950	10	10 00
Dreschfeld H.	958	100	100 00
Dreschfeld H.	954	80	80 00
Dreschfeld H.	955	35	35 00
Dreschfeld H.	956	9	9 00
Landberger J.	965	10	10 00
Landberger J.	966	15	15 00
Levy H.	968	30	30 00
Barrothet J.	979	2	2 00
Dreschfeld H.	988	7	7 00
Dreschfeld H.	987	13	13 00
Erichbach M.	1022	15	15 00
Erichbach M.	1023	10	10 00
Dreschfeld H.	1044	20	20 00
Rowane O. P.	1051	30	30 00
Bohm S. H.	1074	25	25 00
Farwell J. Jr.	1075	35	35 00
Farwell J. Jr.	1076	40	40 00
Luther J. M.	1077	70	70 00
Luther J. M.	1078	40	40 00
Luther J. M.	1079	40	40 00
Hamilton T.	1082	50	50 00
Singleton S.	1094	29	29 00
Singleton S.	1095	68	68 00
Singleton S.	1096	68	68 00
Singleton S.	1097	25	25 00
Pawling T. M.	1098	19	19 00
Pawling T. M.	1099	71	71 00
Pawling T. M.	1100	35	35 00
Pawling T. M.	1101	33	33 00
Pawling T. M.	1102	77	77 00
Pawling T. M.	1103	53	53 00
Pawling T. M.	1104	92	92 00
Pawling T. M.	1105	45	45 00
Turney J. H.	1106	10	10 00
Boyd J. T.	872	10	10 00

And in accordance with law, and an order of the Board
 of Trustees, made on the twenty-fourth day of August, 1866,
 so many shares of each parcel of said stock as may be nec-
 essary will be sold at public auction, by Messrs. Olney &
 Co., at Room No. 15 Government House, San Francisco, Cal-
 ifornia, on the twenty-second day of October, 1866, at the
 hour of 12 o'clock M. of said day, to pay said delin-
 quent assessment thereon, together with costs of advertis-
 ing and expenses of sale.

JOHN S. MACKENZIE, Secretary.
 Office, Room 15 Government House, San Francisco. ocb

**Dinna Gold and Silver Mining Company, Lan-
 der County, Nevada.**

Notice.—There are delinquent, upon the following de-
 scribed stock, on account of assessment levied on the four-
 teenth day of August, 1866, the several amounts set op-
 posite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
H. H. Allen.	236	3	15 00
J. C. Brennan.	211	21	21 00
E. C. Bidleman.	333	1734	85 75
H. F. Cutler.	14	21	105 00
H. F. Cutler.	209	5	25 00
E. F. Cutler.	248	10	50 00
James Camp.	336	10	50 00
G. H. W. Crockett.	244	5	25 00
N. B. Jacobs.	39	2	10 00
T. E. Lindenberg.	112	3	15 00
T. E. Lindenberg.	357	2	10 00
Wm. Pridham.	223	5	25 00

And in accordance with law, and an order of the Board of
 Trustees, made on the fourteenth day of August, 1866, so many
 shares of each parcel of said stock as may be necessary, will
 be sold at public auction, by Jones & Bendixen at the of-
 fice of the Company, on the second day of November, 1866,
 at the hour of two o'clock P. M., of said day, to pay said
 delinquent assessment thereon, together with costs of advertis-
 ing and expenses of sale.

N. C. FASSETT, Secretary.
 Office, 402 Front street, San Francisco. ocb

Ethan Allen Gold and Silver Mining Company.
 Location of Works, Austin, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the fourth day of
 October, 1866, an assessment of fifty cents (50¢) per share
 was levied upon the capital stock of said Company, payable
 October sixth, 1866, in United States gold and silver coin, to
 the Secretary, at the office of the Company, 620 Washing-
 ton street, San Francisco.

Any stock upon which said assessment shall remain un-
 paid on the sixth day of November, 1866, shall be deemed
 delinquent, and will be duly advertised for sale at public
 auction, and unless payment shall be made before

Mina Rion de las Flores Mining and Mill Company, Camp Flores, near West Point, Calaveras County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment (No. 13) levied on the twenty-first day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Anders & Co. C. A.	42	5	\$ 5.00
Anders & Co. C. A.	43	3	3.00
Anders & Co. C. A.	44	4	2.00
Anders & Co. C. A.	45	2	2.00
Anders & Co. C. A.	46	2	2.00
Anders & Co. C. A.	47	2	2.00
Anders & Co. C. A.	48	2	2.00
Anders & Co. C. A.	49	2	2.00
Anders & Co. C. A.	50	2	2.00
Anders & Co. C. A.	51	2	2.00
Anders & Co. C. A.	52	2	2.00
Anders & Co. C. A.	53	2	2.00
Anders & Co. C. A.	54	2	2.00
Anders & Co. C. A.	55	2	2.00
Anders & Co. C. A.	56	2	2.00
Anders & Co. C. A.	57	2	2.00
Anders & Co. C. A.	58	2	2.00
Anders & Co. C. A.	59	2	2.00
Anders & Co. C. A.	60	2	2.00
Anders & Co. C. A.	61	2	2.00
Anders & Co. C. A.	62	2	2.00
Anders & Co. C. A.	63	2	2.00
Anders & Co. C. A.	64	2	2.00
Anders & Co. C. A.	65	2	2.00
Anders & Co. C. A.	66	2	2.00
Anders & Co. C. A.	67	2	2.00
Anders & Co. C. A.	68	2	2.00
Anders & Co. C. A.	69	2	2.00
Anders & Co. C. A.	70	2	2.00
Anders & Co. C. A.	71	2	2.00
Anders & Co. C. A.	72	2	2.00
Anders & Co. C. A.	73	2	2.00
Anders & Co. C. A.	74	2	2.00
Anders & Co. C. A.	75	2	2.00
Anders & Co. C. A.	76	2	2.00
Anders & Co. C. A.	77	2	2.00
Anders & Co. C. A.	78	2	2.00
Anders & Co. C. A.	79	2	2.00
Anders & Co. C. A.	80	2	2.00
Anders & Co. C. A.	81	2	2.00
Anders & Co. C. A.	82	2	2.00
Anders & Co. C. A.	83	2	2.00
Anders & Co. C. A.	84	2	2.00
Anders & Co. C. A.	85	2	2.00
Anders & Co. C. A.	86	2	2.00
Anders & Co. C. A.	87	2	2.00
Anders & Co. C. A.	88	2	2.00
Anders & Co. C. A.	89	2	2.00
Anders & Co. C. A.	90	2	2.00
Anders & Co. C. A.	91	2	2.00
Anders & Co. C. A.	92	2	2.00
Anders & Co. C. A.	93	2	2.00
Anders & Co. C. A.	94	2	2.00
Anders & Co. C. A.	95	2	2.00
Anders & Co. C. A.	96	2	2.00
Anders & Co. C. A.	97	2	2.00
Anders & Co. C. A.	98	2	2.00
Anders & Co. C. A.	99	2	2.00
Anders & Co. C. A.	100	2	2.00

Names.	No. Certificate.	No. Shares.	Amount.
Anders & Co. C. A.	101	2	2.00
Anders & Co. C. A.	102	2	2.00
Anders & Co. C. A.	103	2	2.00
Anders & Co. C. A.	104	2	2.00
Anders & Co. C. A.	105	2	2.00
Anders & Co. C. A.	106	2	2.00
Anders & Co. C. A.	107	2	2.00
Anders & Co. C. A.	108	2	2.00
Anders & Co. C. A.	109	2	2.00
Anders & Co. C. A.	110	2	2.00
Anders & Co. C. A.	111	2	2.00
Anders & Co. C. A.	112	2	2.00
Anders & Co. C. A.	113	2	2.00
Anders & Co. C. A.	114	2	2.00
Anders & Co. C. A.	115	2	2.00
Anders & Co. C. A.	116	2	2.00
Anders & Co. C. A.	117	2	2.00
Anders & Co. C. A.	118	2	2.00
Anders & Co. C. A.	119	2	2.00
Anders & Co. C. A.	120	2	2.00
Anders & Co. C. A.	121	2	2.00
Anders & Co. C. A.	122	2	2.00
Anders & Co. C. A.	123	2	2.00
Anders & Co. C. A.	124	2	2.00
Anders & Co. C. A.	125	2	2.00
Anders & Co. C. A.	126	2	2.00
Anders & Co. C. A.	127	2	2.00
Anders & Co. C. A.	128	2	2.00
Anders & Co. C. A.	129	2	2.00
Anders & Co. C. A.	130	2	2.00
Anders & Co. C. A.	131	2	2.00
Anders & Co. C. A.	132	2	2.00
Anders & Co. C. A.	133	2	2.00
Anders & Co. C. A.	134	2	2.00
Anders & Co. C. A.	135	2	2.00
Anders & Co. C. A.	136	2	2.00
Anders & Co. C. A.	137	2	2.00
Anders & Co. C. A.	138	2	2.00
Anders & Co. C. A.	139	2	2.00
Anders & Co. C. A.	140	2	2.00
Anders & Co. C. A.	141	2	2.00
Anders & Co. C. A.	142	2	2.00
Anders & Co. C. A.	143	2	2.00
Anders & Co. C. A.	144	2	2.00
Anders & Co. C. A.	145	2	2.00
Anders & Co. C. A.	146	2	2.00
Anders & Co. C. A.	147	2	2.00
Anders & Co. C. A.	148	2	2.00
Anders & Co. C. A.	149	2	2.00
Anders & Co. C. A.	150	2	2.00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the said Company, No. 423 Washington street, Room No. 13, up stairs, San Francisco, on the twenty-ninth day of October, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. DICKINSON, Secretary.
Office, 423 Washington street, Room No. 13, San Francisco, October 31, 1886. oc6

Nuestra Señora de Guadalupe Silver Mining Company, Tayoltita District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the first day of October, 1886, an assessment, No. 25, of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Frazier, at the office of the said Company, No. 210 Post street, or to the Treasurer, A. H. MELLMAN, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the third day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-eighth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

F. J. PFEIFFER, Secretary.
Office, 210 Post street, San Francisco, Cal. oc6

Santa Cruz Petroleum Oil Works Company.—Location: Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of October, 1886, an assessment (No. 17) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, R. WEGENER, 415 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.
Office, 415 Montgomery street, San Francisco, Cal. oc6

Mining Notices—Continued.

Antioch Premium Petroleum Company.—Location of Works: Antioch, Contra Costa County, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twentieth day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
T. O. Carter.	19	2	\$ 10.00
T. O. Carter.	20	2	10.00
T. O. Carter.	21	2	10.00
T. O. Carter.	22	2	10.00
T. O. Carter.	23	2	10.00
T. O. Carter.	24	2	10.00
T. O. Carter.	25	2	10.00
T. O. Carter.	26	2	10.00
T. O. Carter.	27	2	10.00
T. O. Carter.	28	2	10.00
T. O. Carter.	29	2	10.00
T. O. Carter.	30	2	10.00
T. O. Carter.	31	2	10.00
T. O. Carter.	32	2	10.00
T. O. Carter.	33	2	10.00
T. O. Carter.	34	2	10.00
T. O. Carter.	35	2	10.00
T. O. Carter.	36	2	10.00
T. O. Carter.	37	2	10.00
T. O. Carter.	38	2	10.00
T. O. Carter.	39	2	10.00
T. O. Carter.	40	2	10.00

Names.	No. Certificate.	No. Shares.	Amount.
T. O. Carter.	41	2	10.00
T. O. Carter.	42	2	10.00
T. O. Carter.	43	2	10.00
T. O. Carter.	44	2	10.00
T. O. Carter.	45	2	10.00
T. O. Carter.	46	2	10.00
T. O. Carter.	47	2	10.00
T. O. Carter.	48	2	10.00
T. O. Carter.	49	2	10.00
T. O. Carter.	50	2	10.00
T. O. Carter.	51	2	10.00
T. O. Carter.	52	2	10.00
T. O. Carter.	53	2	10.00
T. O. Carter.	54	2	10.00
T. O. Carter.	55	2	10.00
T. O. Carter.	56	2	10.00
T. O. Carter.	57	2	10.00
T. O. Carter.	58	2	10.00
T. O. Carter.	59	2	10.00
T. O. Carter.	60	2	10.00
T. O. Carter.	61	2	10.00
T. O. Carter.	62	2	10.00
T. O. Carter.	63	2	10.00
T. O. Carter.	64	2	10.00
T. O. Carter.	65	2	10.00
T. O. Carter.	66	2	10.00
T. O. Carter.	67	2	10.00
T. O. Carter.	68	2	10.00
T. O. Carter.	69	2	10.00
T. O. Carter.	70	2	10.00
T. O. Carter.	71	2	10.00
T. O. Carter.	72	2	10.00
T. O. Carter.	73	2	10.00
T. O. Carter.	74	2	10.00
T. O. Carter.	75	2	10.00
T. O. Carter.	76	2	10.00
T. O. Carter.	77	2	10.00
T. O. Carter.	78	2	10.00
T. O. Carter.	79	2	10.00
T. O. Carter.	80	2	10.00
T. O. Carter.	81	2	10.00
T. O. Carter.	82	2	10.00
T. O. Carter.	83	2	10.00
T. O. Carter.	84	2	10.00
T. O. Carter.	85	2	10.00
T. O. Carter.	86	2	10.00
T. O. Carter.	87	2	10.00
T. O. Carter.	88	2	10.00
T. O. Carter.	89	2	10.00
T. O. Carter.	90	2	10.00
T. O. Carter.	91	2	10.00
T. O. Carter.	92	2	10.00
T. O. Carter.	93	2	10.00
T. O. Carter.	94	2	10.00
T. O. Carter.	95	2	10.00
T. O. Carter.	96	2	10.00
T. O. Carter.	97	2	10.00
T. O. Carter.	98	2	10.00
T. O. Carter.	99	2	10.00
T. O. Carter.	100	2	10.00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, corner Pacific and Battery streets, on the thirtieth day of October, 1886, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

BENJ. B. COLE, Secretary.
Office, corner Pacific and Battery streets, San Francisco, Cal. sep29

Big Blue Lead and Silver Mining Company, Cove District, Tulare County, California.

Notice is hereby given that 177 shares of Stock of the above Company, and belonging to the company, will be sold at public auction, on FRIDAY, October 5th, 1886, 12 o'clock noon, at the auction room of John Middleton & Son. By order of the Board of Trustees.

M. G. ELMGREN, Secretary.
Office, No. 315 Montgomery street, San Francisco. sel5

Capitol Gold, Silver and Copper Mining Company, Uvas District, Santa Clara County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
D. T. Adams.	not issued	3.0	\$45.00
H. Bish.	not issued	2.0	30.00
J. R. Leavenworth.	72	100	15.00
J. R. Leavenworth.	73	100	15.00
J. R. Leavenworth.	74	100	15.00
J. R. Leavenworth.	75	100	15.00
J. R. Leavenworth.	76	100	15.00
J. R. Leavenworth.	77	100	15.00
J. R. Leavenworth.	78	100	15.00
J. R. Leavenworth.	79	100	15.00
J. R. Leavenworth.	80	100	15.00
J. R. Leavenworth.	81	100	15.00
J. R. Leavenworth.	82	100	15.00
J. R. Leavenworth.	83	100	15.00
J. R. Leavenworth.	84	100	15.00
J. R. Leavenworth.	85	100	15.00
J. R. Leavenworth.	86	100	15.00
J. R. Leavenworth.	87	100	15.00
J. R. Leavenworth.	88	100	15.00
J. R. Leavenworth.	89	100	15.00
J. R. Leavenworth.	90	100	15.00
J. R. Leavenworth.	91	100	15.00
J. R. Leavenworth.	92	100	15.00
J. R. Leavenworth.	93	100	15.00
J. R. Leavenworth.	94	100	15.00
J. R. Leavenworth.	95	100	15.00
J. R. Leavenworth.	96	100	15.00
J. R. Leavenworth.	97	100	15.00
J. R. Leavenworth.	98	100	15.00
J. R. Leavenworth.	99	100	15.00
J. R. Leavenworth.	100	100	15.00

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 719 Clay street, San Francisco, on the eighth day of October, 1886, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. R. BECKFORD, Secretary.
Office, No. 719 Clay street, San Francisco. sep22

Chilpaneca Mining Company—District of Ures, Sonora, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-seventh day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Gautier F.	10	30	\$75.00
Howard G. H.	15	18	45.00
Howard G. H.	16	18	45.00
Nieheimer Jos.	25	17	60.00
Mosheimer Jos.	57	25	65.00
Teschmacher H. F.	14	17	45.00
Teschmacher H. F.	15	17	45.00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-seventh day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesrooms of John Middleton & Son, No. 404 Montgomery street, San Francisco, on the fifteenth day of October, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Müller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the miller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

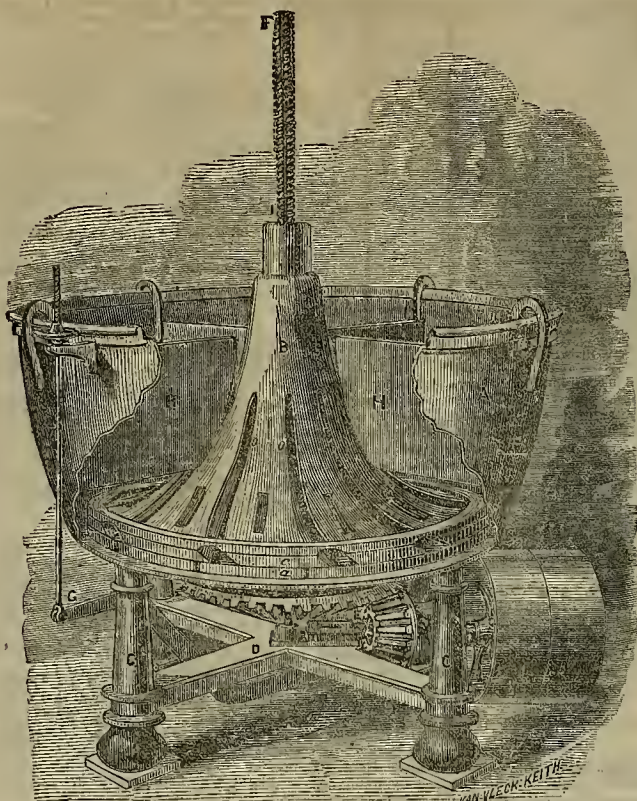
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits. They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

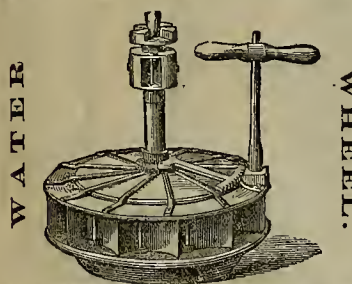
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
1st San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 50 feet fall. Let us know how much water you have either in minor's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to
KNAPP & GRANT,
—ALSO—
San Francisco.

Leffel's Lever Jacks,
For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make, and kind.
For sale by
KNAPP & GRANT,
1212-13th
San Francisco.

PAGE'S PATENT FOR RAISING SUNKEN VESSELS!

SHIPPING AND INSURANCE COMPANIES, AND other parties upon this Coast or in the Atlantic States, having occasion to avail themselves of this invention, which has been tried and proven a success, will please address, for the present, JOSEPH DE VINCEY, San Francisco or at the office of the Mining and Scientific Press, 813
AUSTIN Z. PAGE, Patentee.

To Ditchmen, Millmen and Others Requiring
IRON PIPE.

M. B. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground.
1912

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE
ITHACA CALENDAR CLOCK COMPANY,
Ithaca, N. Y., and for sale by
W. J. EGBERT, Agent.

At JOE M. SEAMAN & Co's, 631 WASHINGTON STREET,
San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the Mining and Scientific Press.
215-1st St

Brodie's Patented Improvements

FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:
No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....\$600
No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour.....\$850
No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour.....1,200
The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Baywide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1884. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st November, 1886, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1886.
Express Building, 402 Montgomery street,
San Francisco.

REMINGTON'S ARMORY.

Agency, 310 Washington st., San Francisco.

PRICES REDUCED!

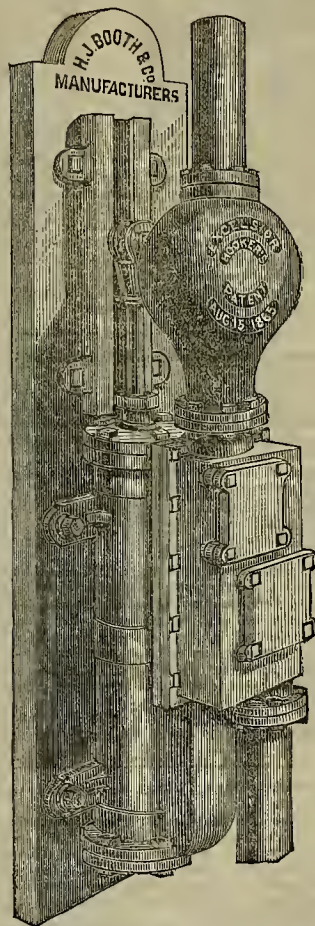


Arm—having a range and accuracy equal to a rifle, and a most perfect Case. All the new models for sale very low.
1213-1st

ALBERT E. CRANE.

Its correspondents are men of science and learning, and hail from all parts of the coast. It is published at San Francisco, at \$5 per annum, or \$3 for six months. Address DOWEY & Co., publishers of MINING PRESS, San Francisco. [Nyc County News.

EXCELSIOR PUMP!



THIS DOUBLE-ACTING SUCTION AND FORCE PUMP CHALLENGES COMPETITION, for simplicity, durability and power, and will work at any depth. The pistons for Mining Pumps are packed with hemp. The valves are reached by simply removing the "bonnets," thereby avoiding the trouble of raising a long column of pipe. They will raise as much water as TWICE their size of single-acting Mining Pumps, and are sold at half the price. We have never heard of the valves in this Pump being out of order. For their many superior points they are fast replacing all other Force Pumps. Reference can be given where this Pump is working with eighteen others of different patterns, and is pronounced THE BEST, also, from some of the best miners in the State who have them in use. For manufactories, farms or domestic use, we warrant them the best and cheapest. All sizes adapted to any power or any purpose. For sale by agents throughout the State.

J. W. BRITTON & CO.,

General Agents,
120 Front street, San Francisco.
2113-3rd

Send for Price List.

STODDARD'S

CELEBRATED WATER FILTERS!

PURIFIER RAIN, RIVER, OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by
S. B. STODDARD,
Corner of Battery and Pacific streets.
2512-3rd

Union Amalgamator.

This Valuable Invention

IS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tailings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation.

Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention.
1512-3rd

BRUCKNER'S

Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,

1912 416 Market street, San Francisco.

Kerosene and Gas Stoves.

TEA AND COFFEE BOILERS, GLUE POTS, OIL CANS, etc., etc.

All the Cooking for a family may be done with Kerosene Oil or Gas, with less trouble, and at less expense, than by any other fuel.

Each Article manufactured by this Company is guaranteed to perform all that is claimed for it.

Send for Circular.

LIBERAL DISCOUNT TO THE TRADE.

KEROSENE LAMP HEATER COMPANY,
206 Pearl Street, New York. 6v13-2m

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by

THOMAS H. SELBY & CO.,

2212 3rd Nos. 116 and 118 California street

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. One to three-ply Hose made. All orders punctually attended to.

S. HOWARD,
326 Davis street, San Francisco.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers

STODDARD'S IRON WORKS,

114 Beale Street, San Francisco.

2312 3rd

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery

OF ALL KINDS.

Especial attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MAOHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. F. Low; C. T. Meador, Stockton; Jacob Underhill & Co., San Francisco; J. W. Stowe, Russell & Erwin Manufacturing Company, Office, No. 120 Front street, San Francisco. 4v12

Economy in Advertising.—THE MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than one-half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonableness of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

A NOVEL SUTURE.—In a private letter from Dr. Chas. Dorat, Santa Anna, State of Salvador, Central America, he says: "I will mention a curious case of native surgery I witnessed a short time ago. The patient had received a severe stab in the abdomen, from which protruded about half a yard of intestine and a portion of omentum, the former having a longitudinal slit about three inches long. On my arrival I found an Indian *medico* had sewed up the wounded gut with the nippers of a large ant. The insect, which is very savage, was taken by the body and its head presented to the united lips of the wound, which it bit and held fast. The operator then, by a pinch of the fingers, killed the ant, [nipping off its body and] leaving its head fixed to the gut. Another and another ant thus applied, to the number of a dozen or fifteen, affected this singular suture. The gut was then replaced, and, no inflammation ensuing, the man recovered speedily. This curious practice is said to be usual in this part of Central America."

A WATERFALL OF TWO THOUSAND FEET.—The *Democrat* says there is a fall of water on the South Fork of the Tuolumne, that lays over the falls of Yo-Semite by seven hundred feet. The fall at the latter place—at least the perpendicular fall—is stated, we believe, at fourteen hundred feet, while this fall of water on the Tuolumne is given at two thousand feet. Dr. King and Mr. Gardiner, under the direction of Prof. Whitney, the State Geologist, have been exploring the section of country watered by the Tuolumne river and branches, and made this discovery of this fall. The gentlemen visited Sonora the other day, and after remaining a day or two, returned to the falls, where they intend to make a complete survey. The country is described as beautiful, and the valley where the falls are situated enchanting.

STILL ANOTHER "BANKER" MINE.—The *Downieville Messenger* gives a brief description of a mine near that place, which we should judge somewhat resembles the celebrated Banker mine, near Lincoln:

The Chappai quartz claim, situated about one mile northerly from Downieville, near the Monte Cristo trail, has been heretofore worked as a placer claim, being in a talcose formation—which is much decomposed near the surface. Water, with the help of the pick, has heretofore been quite sufficient to free enough of the gold to make it quite remunerative property to the owners. Recent developments have proved its continuity in depth, with a very rich class of auriferous ores. The ores now being quarried are so rich that the proprietors are packing them to be put away for safe keeping.

TRAVELERS and geologists have been at a loss to account for the origin of the masses of asphalt, sometimes of considerable size, found floating on the water of the Dead Sea. In a paper recently presented to the Academy of Sciences by M. L. Lartet, "On the deposits of Bitumen in Judea, and on the Asphalt of the Dead Sea," the author states his belief in the existence of a series of hot springs which rise through bituminous limestone and bring up the asphalt.

The curvature of the earth amounts to seven inches per mile. A man six feet high cannot see from a distance of ten miles.

Auction House.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 418 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.

STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the MINING AND SCIENTIFIC PRESS.

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Offer their services to
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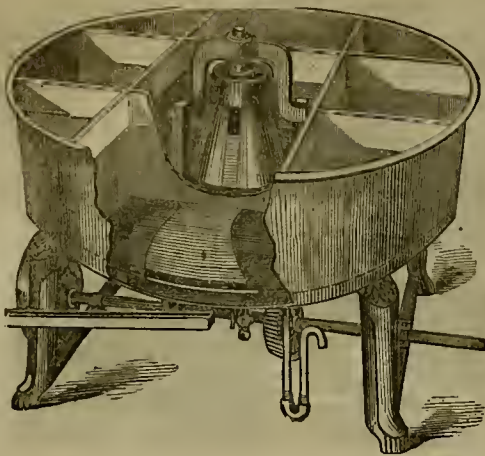
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CAUTION!

NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 27th, 1865, to Professor Henry Wurtz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

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IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 22, 1860, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD. \$750,000
II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS. \$1,051,420.37
III.—The Company has NO DEBTS.
IV.—The amount of insurance effected during the year, and which remained in force December 31, 1865:
Fire. \$12,973,949
Marine. 484,408
This Company commenced underwriting Marine Risks, August 1, 1865.
V.—This Company insures against the following risks, viz: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.
Also, on CARGOES, TREASURE, COMMISSIONS, PROFITS, AND WAR RISKS, AND ON ALL MARINE AND INLAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.
VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reimburse to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

J. HUNT, President.
A. J. RALSTON, Secretary.
San Francisco, January 19, 1866.

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W. C. Ralston,	Chas. Mayne,	T. L. Barker,
A. L. Tubbs,	Moses Ellis,	Alex. Weil,
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H. M. Newhall,	Wm. Hooper,	Wm. Sharon,
G. T. Lawton,	Alfred Korch,	

State of California, City and County of San Francisco, ss.
On this nineteenth day of January, A. D. one thousand eight hundred and sixty-six, personally appeared before me, H. S. HOMANS, a Notary Public, in and for the said City and County, and therein reading, duly commissioned and sworn, A. J. RALSTON, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.
Sworn and subscribed to before me, this 19th day of January, A. D. 1866.
5v13-1f H. S. HOMANS, Notary Public.

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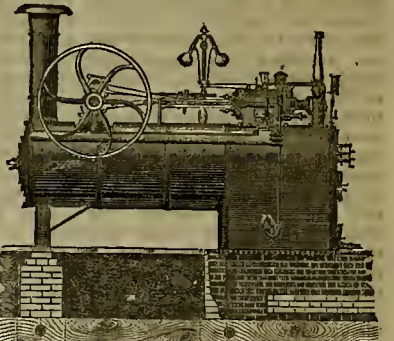
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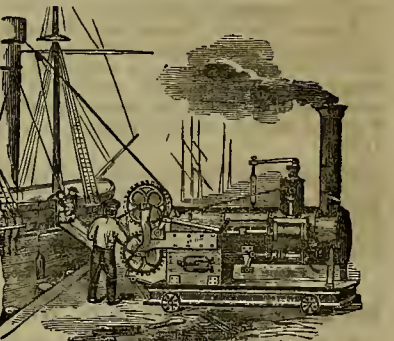
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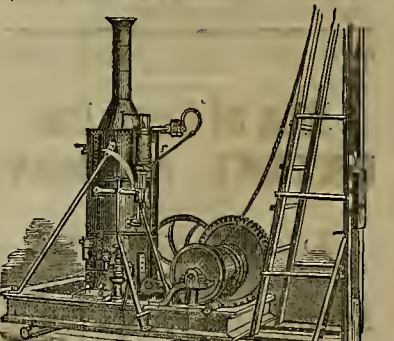
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NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

NEW INVENTIONS.

IMPROVED WAGON TIRE.—The Contra Costa Gazette speaks of an improved wagon tire, recently invented by J. G. Still, and exhibited at the late fair in that county. The improvement is simple and inexpensive, and its application will insure a great saving in the expense and trouble of tire setting, and an incalculable saving in the wear of wheels, to the shrinkage of which in dry weather, and the swelling in wet weather, the adjustment of the tire can be made in a moment. The mechanism of the improvement is not described.

AN ARTILLERY IMPROVEMENT.—Francisco Gonzalez, a native of Mexico, and a civil engineer now residing in this city, has invented a rifled breech-loading cannon which is believed to be more simple, powerful and effective than anything in the line hitherto produced. The model can be seen at the Mexican Consulate, on Bush street. We learn that it is the intention of the inventor to submit it to the examination of experienced military men, and if approved, to apply for a patent. The construction of the gun is entirely new in principle. Instead of the permanent breech, as with muzzle loaders, the piece is bored through from end to end, so that a person can see directly through it. A chamber is made by boring down from the vent through the core. The chamber thus created is considerably larger than the bore of the gun. This chamber is filled by a solid mass of iron through which the bore and rifling is carried. By turning a lever the chamber is closed completely, the plug swinging around exactly like the horizontal piece of a common wooden faucet, and forming an air tight breech. The advantage claimed for this arrangement is that it enables three men to do the work of a dozen by the old system of muzzle loading, and affords perfect protection to the artillerymen, who can work the gun while it projects from a case-mat or port-hole, without being seen by the enemy.

PATENTS RECENTLY ISSUED.

PUMP.—Wm. D. Hooker, San Francisco claims a vertical and inclined partition in combination with the suction valve seats, and discharge valve seats; the whole arranged as described by him, and for the purpose specified. Patented August 15, 1865; reissued August 1866.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, in *one-half* the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE.

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New Mining Laws of California and Nevada.

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June 23d, 1866.

J. HENDY, Patentee.

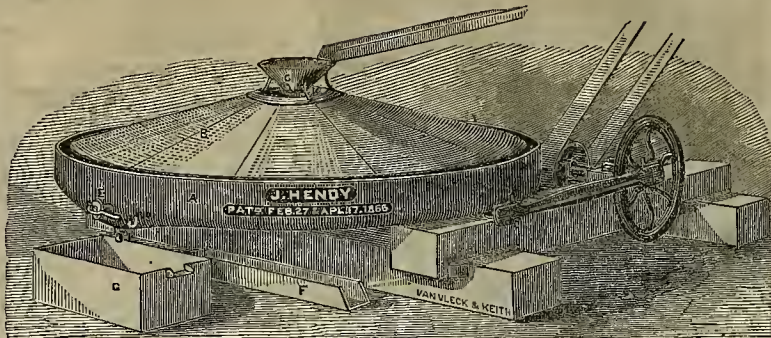


Figure 1.

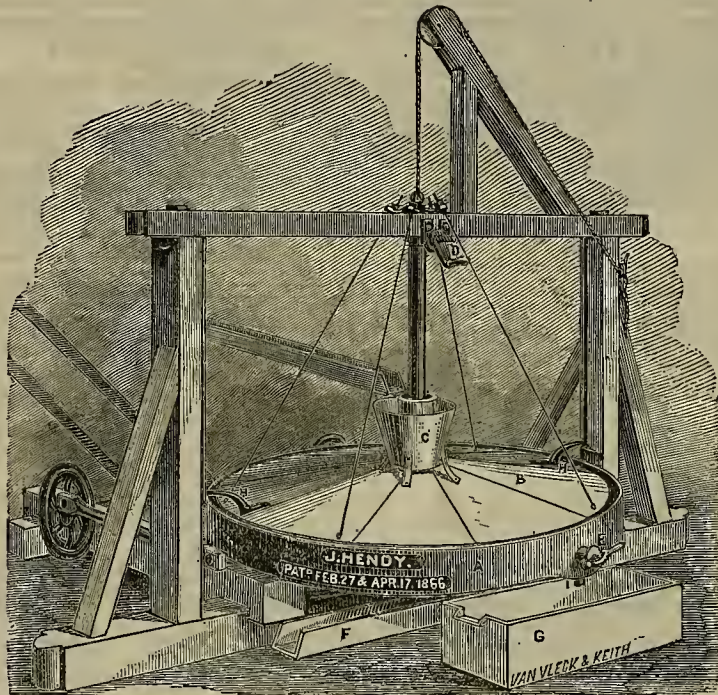


Figure 2.

Hendy's Improved Patent Self-Discharging Sulphurets

PRATER CONCENTRATOR

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C. H. SCHNABLER'S MILL, Doty Flat, Placer County.
JERSEY BLUE, near Folsom, Cal.
SPRING HILL MILL, Amador, Amador County.
GOLDEN GATE MILL, Volcano, Amador County.
RAWHIDE MILL, Jamestown, Tuolumne County.
TRIUNFO G. & S. M. CO., Lower California, Mexico.

And in use in many other parts of this State; also in Idaho, Arizona, Colorado and Mexico. They may be seen in operation at the GOLDEN STATE FOUNDRY, No. 19 First Street, San Francisco.

DESCRIPTION:

FIGURE 2 is a sectional view. C, is the Hopper in which the tailings are thrown. The tailings then distribute on the Distributor, B. The tailings enter the pan, A, at its periphery, and the debris discharges near its center, and passes off in the spout, F. The sulphurets discharge at gate, E, amalgam and quicksilver at plug, I. J, is a horn-shaped cavity for collecting quicksilver and amalgam. S, is the sulphurets. M, M, the agitating bars, with copper plate, coated with mercury.

The agitating bars operate on top of the pulp. They are acknowledged to be, by those using them, a valuable improvement. [An extra charge of \$15 is made when these bars are furnished.] The pan, A, shows a curve-linear bottom, which gives a more precipitous descent near its center, for the purpose of forcing the sulphurets towards the periphery. It will be noticed that the centrifugal force diminishes towards the center of the pan, for which reason the inclination is increased for the purpose above mentioned.

The pan, A, has an inclination at its periphery, towards the gate, E, for the purpose of forcing the sulphurets to the discharge gate. At the same time the center rim is level; the sulphurets, S, being forced by the oscillating motion of the machine, and are discharged through a small opening in the pan at gate, E.

Certificates:

JOSHUA HENDY, Esq.—Dear Sir: I have been using three of your Improved Concentrators for the past four months, at the Spring Hill Mill, and they give perfect satisfaction.
Yours truly,

AMADOR, July 20th, 1866.

WM. H. HOOPER.

JAMES TOWN, TUOLUMNE COUNTY, CAL., July 13th, 1866.
JOSHUA HENDY, Esq., San Francisco:—MY DEAR SIR: I have the pleasure to inform you that the four "Improved Self Discharging Prater Concentrators," which I purchased from you, have now been in operation in the Rawhide Mining Company's Mill for more than two months, and have more than realized my expectations.

I am free to say it is the best Machine for saving Quicksilver, Amalgam, and Sulphurets that I have ever used or seen used for that purpose. I shall take pleasure in showing any one interested the Machine in operation, who will at the mill. I shall need four more as soon as the balance of our mill is completed. Yours truly,

R. P. JOHNSON, Superintendent Rawhide Mill Company.

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SAN FRANCISCO, SATURDAY, OCTOBER 13, 1866.

VOLUME XIII.
Number 15.

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NAME AND LOCATION.	AMT OF ASSESSMENT.	DAY OF DELINQUENT SALE.	DAY OF PAYMENT OF DIVIDENDS.
Arbitros M. Co. Mex. \$1.	Oct 3—Oct 26		
Antioch P. Petrol. Co. Contra Costa Co., \$2.	Sept 24—Oct 15		
Altaville Q. M. Co. \$50.	Nov 5—Nov 22		
Cosala S. M. Co. Mex. \$1.	Oct 31—Nov 19		
Consolidated S. H. M. Co. \$1.	Oct 1—Oct 21		
Chilpancingo M. Co. \$2.50.	Sept 28—Oct 16		
Crown Point, dividend, \$20 ft.	Payable June 15		
Confidence S. M. Co., Storey Co., Nev., div. 10 p.c.	Pay July 9		
Diana G. & S. M. Co. Nev. \$5.	Oct 5—Nov 2		
Ethan Allen O. & S. M. Co. \$50.	Nov 6—Nov 27		
El Tiste S. M. Co., Sra., Mex. \$1.	Sept 21—Oct 1		
Enterprise C. & S. M. Co.	Meeting Oct 15		
Enterprise G. & S. M. Co. Meadow Lake, \$1.25.	Sept 26—Oct 17		
Eureka, San Juan, dividend \$1.50 per sh.	Pay Indly—Sept 3		
Empire M. & M. Co. dividend.	Payable Oct 10		
Geo. Washington G. & S. M. Co., Alp. Co. \$2.50.	Oct 20—Nov 5		
Great Central M. Co.	Annual Meeting Oct 8		
Gould & Curry, dividend \$50 ft.	Payable June 8		
Humboldt C. & S. M. Co. Nev. \$2.	Nov 1—Nov 27		
Hanscom C. M. Co. Del Norte Co. 15c.	Oct 18—Nov 5		
Hale & Norcross, dividend.	Payable Oct 15		
I. & L. C. & S. M. Co. \$1.50.	Oct 30—Nov 20		
Imperial G. & S. M. Co. dividend \$6 sh.	Payable Sept 15		
Independent C. M. Co. Dividend.	Payable Sept 1		
Indian Valley C. & S. M. Co.	Ann Meeting Oct 16		
Jefferson C. & S. M. Co. Yuba Co. Div. \$10 sh.	Payable Aug 27		
Keystone M. Co. Calaveras Co. \$5.	Oct 23—Nov 10		
La Blanca G. & S. M. Co. \$1.	Nov 6—Nov 27		
La Blanca G. & S. M. Co.	Annual Meeting Oct 3		
La Victoria G. & S. M. Co. \$1.	Meeting Oct 31		
Libertad G. & S. M. Co. Mex. \$5.	Oct 27—Nov 12		
Mina Rica de las Flores M. & M. Co. Cal. \$1.	Oct 2—Oct 20		
Melones and Stanislaus O. S. & C. Co. \$2.	Oct 6—Oct 25		
Montezuma G. M. Co. dividend \$500.	Oct 4—Oct 20		
Nonpareil O. & S. M. Co. \$2.50.	Nov 5—Nov 25		
Nuestra Sra de Guadalupe S. M. Co. \$1.	Nov 3—Nov 27		
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San Marcel S. M. Co. Mex. \$1.	Oct 19—Nov 21		
Santa Cruz Petrol Oil Works Co. \$500.	Nov 6—Nov 27		
Segregated Belcher M. Co. Nov. \$25.	Nov 3—Nov 27		
Sierra Nevada S. M. Co. \$2.50.	Nov 3—Nov 20		
San Francisco Moss Ledge Co.	Annual Meeting Oct 21		
Segregated Belcher M. Co. dividend.	Payable Oct 31		
Savago S. M. Co. dividend.	Payable Oct 9		
Tellurium C. & S. M. Co. \$1.	Nov 15—Dec 5		
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White & Murphy G. & S. M. Co. \$1.	Oct 11—Nov 1		
Yellow Jacket S. M. Co., div. \$50 sh.	Payable Oct 15		

Those marked with an asterisk () are advertised in this journal.

YIELD OF NEW ALMADEN.—Sixteen thousand seven hundred flasks of quicksilver were received from the New Almaden mine during the first nine months of 1866. The number exported during the same time is 24,483. For the first nine months of 1855, the export was 29,819.

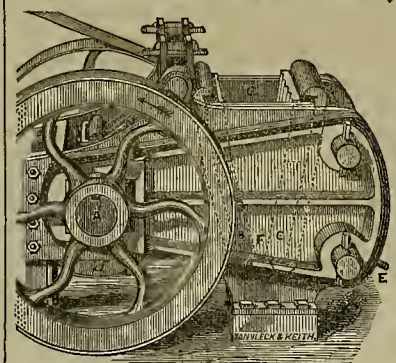
AGRICULTURAL AND MINING COLLEGE.—The committee have made proposals for securing the location of the Agricultural and Mining College. The Board of Directors meet in San Francisco on October 15th, to determine upon the site.

BLACK MARBLE.—Some one informs us, by letter, of the discovery of a quarry of black marble and a superior deposit of lime, near Dutch Flat. Our correspondent neglects to send us his real name, without which no communication can be considered.

BRODIE'S PATENT QUARTZ CRUSHING MACHINE.

The annexed engraving represents one of a well known class of machines which is steadily coming into use for reducing the quartz from the condition in which it is received from the mine to a size suitable for being placed under the stamps for further reduction. A large amount of labor is saved by these machines, and the rock is much better prepared for the stamps than when it is done by hand. We have here a perspective view. We give the inventor's description as follows:

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame, of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary



jaws. Letter A represents the eccentric shaft by which this power is applied direct to the movable jaw. Letter B represents the movable jaw, and C the fixed jaw. Letter D represents the link or radius bar. Letter E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. Letter G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

Those who have witnessed the working of the machine, are astonished at the ease with which it is made to operate, and its simplicity of construction and great strength. It is claimed for the machine, that with equal power for work, it is of considerably less weight than other machines of a like character, an item of economy not only as respects original cost, but will be found specially important at mines situate in remote places, and of difficult access.

Three sizes of crushers are manufactured, viz.: Openings, 10 in. by 7 in., 15 in. by 7 in., and 18 in. by 9 in., at the Fulton Foundry, in this city, where the machine can be seen in operation.

For the capacity for work and prices, the reader is referred to the advertisement of the proprietors, Messrs. Brodie & Radcliffe, in this paper.

MAGNESIUM IN THE ARTS.

Magnesium is now made in Boston, on a somewhat large scale, from dolomite or magnesian limestone, by the Sonstadt method. The principal use for the metal hitherto has been to burn for light, the acting power of which is 1-36th that of the sun, though the intensity of the light is 1-525th that of the sun. Numerous other employment in the arts will, doubtless, be found for magnesium, as soon as its properties become more generally and more fully known.

M. Roussin has recently published a paper on the action of magnesium on metallic solutions, and on its application to toxicological researches, which shows that magnesium is particularly well adapted for the precipitation of other metals from solutions of their salts. A large number of very interesting experiments in this direction are reported by M. Roussin. Among others, he observes that a sodium amalgam, shaken up with an acidulous solution of salt of chromium, or a salt of manganese, changes to an amalgam of chromium or of manganese, as the case may be; and that as amalgam of either of these metals, obtained in the manner indicated, when distilled in a current of hydrogen, after having been first carefully washed in acidulated water, leaves the pure metal in the form of a fine, spongy powder.

He shows that magnesium is particularly well adapted for the precipitation of other metals from solution of their salts. Quite a number of metals have hitherto resisted all attempts to precipitate them by the use of other metals; but, with two or three exceptions, Mr. Roussin has found that these are all readily precipitated into their metallic state by the use of magnesium. The two exceptions are chromium and manganese, which are both thrown down, however, but in the condition of oxides. Aluminum is not precipitated at all.

The use of magnesium in fireworks gives the lights a most magnificent brilliancy, such as is attainable in no other way. Several European governments are now engaged in experiments, with the view of its application to light houses and coast and sea signals. It is also beginning to be used for examinations with the speculum in surgical operations.

For workers and dealers in colors, the magnesium light is superior to all others, for the reason that by its rays colors can be distinguished as readily as by sunlight. These are some of the many uses to which magnesium have been already applied. Further researches, and its cheaper production will, doubtless, ere long, lead to its much more extended and varied application in the arts.

NEW FIRM.—Messrs. Bacon & Stewart, at No. 51 Beale street, practical machinists, have formed a copartnership for the business of making and repairing all kinds of machinery. Particular attention paid to printing press work, in which branch of the business Mr. Stewart has had several years experience. They respectfully solicit the patronage of the printing fraternity.

The presence of alcohol in etherial oils may be detected by fuchsin, which is soluble in alcohol, but not in etherial oils.

THE USE OF COSMETICS.—CHEMICAL PHENOMENA—LADIES BEWARE.—A lady in this city, and one somewhat noted for the delicate beauty of her complexion, noticed a few days since, the sudden appearance upon her person of great numbers of pimples, like groups of little volcanoes, which threatened to cover her beautiful neck and arms with pathological arabesques. Under the advice of a physician, whom she had called in, she ordered a medicated bath; and with the hesitation of a woman of delicate nerves she gradually submerged her person. Scarcely, however, had the sulphurous wave enveloped her form, ere, from head to foot, the delicate white of her person was changed to Ethiopian bronze. Ignorant of the fact that the change of color was due to her almost daily habit of whitewashing herself, so to speak, from head to foot, and fearful lest the sudden transformation of her person was due to an attack of the cholera, she again hastily summoned her physician, who, when he arrived, could scarcely preserve his dignity on witnessing the changed appearance of his patient.

"Madame" said he, with all the gravity he could summon, "be not alarmed: you are not ill; you are merely a most remarkable chemical product. You are no longer a woman; you are a sulphuret. It is not now a question of medical treatment which I have in my hands; but a simple chemical reaction which I must bring about. I shall analyze you. First I shall submit you to a bath of sulphuric acid, diluted with water. The acid will have the pleasure to combine with you—will take up the metal and sulphur with which you have so plentifully covered your person, and will produce a sulphate. We shall then find, as a precipitate a very pretty woman." Fair dames, let this incident serve you as a lesson—never use a white powder which has a metallic base.

THE COLORADO METEORITE.—Not being fully satisfied of the mineralogical character of the specimens sent us from Colorado by Mr. Smith, we submitted them to Prof. Blake, who has sent us the following note:

"One of the specimens you sent to me is, unmistakably, a fragment of meteoric iron, having a peculiar characteristic crystallization, which is not often visible until a polished surface has been etched with nitric acid. In this specimen, however, the fracture alone develops the crystalline figures, and in a most marked degree. It was this unusual appearance, and the oxidized surface, which very naturally led you to doubt its simple metallic character. The fragment is doubtless from the same meteorite noticed by Professor Shepard in the *Journal of Science*. He notes its similarity to the celebrated meteorite of Arva. It contains grains of schreibersite—a hard mineral which somewhat resembles magnetic pyrites. The other small fragment sent appears to be a detached nodule of the schreibersite, but this cannot be affirmed positively without further examination."

QUARTZ MINERS' INCOMES.—Jules Fricot, a Nevada quartz miner, gives his income for 1865 as \$182,511. This is the largest tax returned in California. The next largest is that of James P. Pierce, also a mine owner, who resides in San Francisco. The figures are \$102,031.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Written for the Mining and Scientific Press.)

Notes on the Chief Gold Districts Throughout the World.

BY PROFESSOR ROWLANDSON, F. G. S. L.

(Continued from Page 210.)

BRITISH COLUMBIA

May be briefly dismissed with a few remarks. The Cascade range, whether considered as a spur or irregular continuation of the Sierra Nevada, does not, from all accounts, appear to vary much either in physical or geological features from the latter named range; the chief one, probably, being that, in parts, the mountains composing it are more abrupt and rugged; that quartz is found in more massive forms and in greater abundance; also that volcanic action is not yet extinct. From what is known of the geology of Vancouver Island, the coal district of Bellingham Bay, etc., it may be strongly inferred that the cretaceous rocks extend throughout the whole of this auriferous region—one possessing some remarkable features, and comparatively unexplored. The Cariboo alluvial gold field could only have been supplied from the decomposition of rocks containing very rich gold veins. A specimen from this neighborhood, of a remarkable character, was recently shown to the writer. It consisted chiefly of compact titaniferous iron (the disintegration of which would form the well known black sand), along with some minute crystals of quartz, throughout the central portions of which, ramifying in every direction, iron pyrites and gold was discernable. This portion of the North American Continent may be dismissed, with the observation that, so far as discoveries have been made, it is highly probable that the Laurentian and Huronian rocks of Canada and Northwestern New York are not to be found to the west of the Saskatchewan.

CALIFORNIA, NEVADA, NEW MEXICO, OREGON, ETC.

The detailed consideration of the geological features associated with the extensive territory comprised in the above sub-heading, need not now be dwelt upon, as much has already been written by me, and been previously published in the MINING AND SCIENTIFIC PRESS and *Alta*. Notwithstanding the ignorance, real or assumed, exhibited by Professor Brewer, in an article which appeared in the last July number of Silliman's *Journal*, as to any one having "surmised," to use the Professor's term, that the gold bearing rocks of California were of an age so recent as the Cretaceous; the facts, when written truly, are, that in the *Alta California*, I distinctly, in the year 1863, announced my strong conviction that although paleontological evidence was then absent, when such should be discovered, the gold-bearing rocks of California would be found as high as the Jurassic. That Professor B. may not have seen the original is probable; he might, however, have easily ascertained whether such was the fact or not. He observes: "I cannot positively deny that such surmises (the italics are Professor B's own) may have been printed, but I never saw them until after September, 1864; since which date certain writers have recollected that they had arrived at these conclusions, and are now putting forth claims for their discoveries." In the first place, I may remark that I am not aware that any one but myself, either before or since 1864, has put forth, on general principles, any claim indicative of the theory that gold-bearing rock, either in California or any other part of the world, might possibly be discovered amongst rocks belonging to the secondary series; the inference, therefore, is very strong that the writer or writers referred to can only apply to myself. If such is the fact, Professor Brewer's only opportunity of perusing any claim of mine on this subject must have been the re-publication in the MINING AND SCIENTIFIC PRESS of part of my early series "On the Age of Gold-Bearing Rocks," which originally appeared in the *Alta*, in which re-publication the original date was

referred to, and must have been seen by Professor Brewer, if I am correct in the above "surmise." The assertion of Professor Brewer, that the fact of the sedimentary portion of the metalliferous belt of the Pacific coast of North America is chiefly made up of rocks of Jurassic and Triassic age, etc., has been known some years, only distantly bears on the point at issue respecting that of establishing the fact, that auriferous veins exist in close proximity to beds containing fossils of secondary age. The latter fact was first publicly demonstrated by Professor W. P. Blake, in his communication to the California Academy of Sciences, October 4th, 1864, and published in their transactions shortly afterwards, at the reading of which Professor B. was present, certainly before the State Geologist asserted that similar fossils to those described by Professor Blake had been found by Mr. Clarence King in the same neighborhood (near Hell Hollow) where Professor Blake had obtained his specimens.

Direct reference was not published respecting the latter, by the State Geologist, until the appearance of the first volume of Paleontology, which was not published until the year 1865, had considerably advanced. A casual reader and observer, from the date and place given in the volume noticed—namely, "Geological Survey, California, September, 1864," would infer that the above passage was written in this State, and possibly at the time named. The fact, however, is this: Mr. Whitney was not in California at that time, as may be seen by reference to the September number of Silliman's *Journal*, wherein it will be seen that that gentleman dates an article "Northampton, Mass., August 1st, 1864," and certainly did not return to California until about the fall of the following year.

Again, in Appendix B, of the first volume of the Geology of the State, dated November 1st, 1865, the State Geologist observes: "The first Jurassic fossil found in the auriferous rocks of California, were from Genesee Valley, and described by Mr. Meek, Sec. 2, Vol. I., of the Paleontology of California. These were discovered and collected by Brewer and King in 1863. In the January following Mr. King found belemnites in three places near Hell Hollow."

Now, it may be asked, if ample proof existed of the Jurassic age of the auriferous rocks at Genesee Valley, in 1863, why was the fact unnoticed in the first volume of Paleontology, and allusion only made to the asserted discoveries of Mr. King, in Mariposa county, in the course of the following year.

The value of the Genesee discoveries, as associated with the determination of the age of auriferous-bearing rocks, from the silence observed on this point, must appear to any disinterested observer to have been an after-thought, induced by the subsequent discoveries in Mariposa county.

It may be here well to remark, also, that proximity alone would not suffice to establish even a comparative identity of age with an adjoining metalliferous vein; such a thing might occur by a great down-throw, by which fossiliferous beds of secondary age, like the Jurassic beds discovered near Bear Valley, might be found abutting on, and in direct contact with powerful auriferous veins, like the Pine Tree and Josephine, yet the latter be associated with beds of much more ancient date.

Such phenomena are well known in connection with the stratigraphy of ancient and more recently formed rocks, and to a considerable extent can be illustrated in the case of mineral veins other than those which are auriferous.

The observations made by Professor Brewer, in Silliman's *Journal*, and referring to Professor Brewer's somewhat irregularly inserted remarks in the "Proceedings of the California Academy of Science," are quite beside the question at issue. Drs. Veatch and Trask (formerly State Geologist), several years before the Genesee discovery, found, described, and, in some instances, figured, fossils belonging to the secondary rocks which had been obtained by them in California. These discoveries were made several years prior to the appointment of Professor W. as State Geologist. I have more than once imparted my views to these gentlemen respecting the probable age of the gold-bearing rocks of this State; to the former at least seven, and to the latter probably ten years ago. Believing that I am the only person, prior to the fossil discoveries above dwelt upon, who, on general principles, propounded the opinion that future investigation would establish the existence of gold-bearing veins in rocks more modern than the Silurian, and possibly even of Tertiary age, it may be easily conceived that I have been, during my residence in California, extensively alive to any matter calculated to illustrate and establish such an opinion. However anxious to estab-

lish my theory on the basis of facts, I have been disappointed, until made aware of the fossil discoveries near Bear Valley, above alluded to, not because I was unaware that fossils of Secondary and Tertiary age had been found for 500 miles from Shasta to San Diego, and for 200 miles at points bordering on the auriferous district; but simply because, until the discoveries published by Professor Blake were made known to me, the close association of such fossils with any adjacent gold vein had not been established. In fact, Professor Dann, in the 1863 edition of his "Manual of Geology," stated that cretaceous rocks were found, "according to Whitney, at various points on the Coast Range in California, and along the foot-hills of the Sierra Nevada, from Placer county to Shasta." But neither Whitney nor Dana at that time attempted to associate these cretaceous rocks with gold-producing veins.

(Written for the Mining and Scientific Press.)

Mining in Central Nevada.

EDITORS PRESS: It seems to be a general impression in California that the only kind of mines we have in the Reese River country, are the small spotted ledges discovered in the spring of 1863, and that in reality there is nothing in the Great Basin deserving of the attention of capitalists or operators in mines. Than this there can be no greater mistake; probably the most valuable silver mines which have ever been discovered in any part of the world, are located in the central and southern portions of the State of Nevada. Our best mines, it must be admitted, are of recent discovery, and as it may be interesting to your readers, I proceed to give you a slight description of the two mining districts where the richest ledges have been found.

SILVER BEND.

This district is about twenty five miles north of San Antonio, on the eastern slope of the mountain range east of Smoky Valley. It is eighty-five from Austin, in a southeasterly direction. The belt is of slate, and not over half a mile in width, there being only two or probably three main lodes within it. One of these is the celebrated High Bridge mine, which, though purchased by the Combination Silver Mining Company of New York, and the David E. Buell, at a cost of a few thousand dollars, will probably be found of greater value than even the Comstock, when an equal amount of work shall have been performed upon it. For at least a thousand feet the vein shows ore on the surface which assays from \$200 up to \$3,000 per ton. The ledge appeared to be only about three feet in width when discovered in May last; but now, after it has been opened to the depth of twenty-five or thirty feet, a body of the richest kind of ore has been exposed at least twenty feet wide. Mr. Buell has had a 10-stamp mill at work in the district for several weeks, and although he has no facilities for roasting the ore, and cannot work it closer than fifty per cent. of the fire assay, he is netting \$150 per ton. A run of fifteen days, with five stamps, yielded over \$12,000 in bullion; the expenses of mining and milling being only \$4,500.

It is the intention of the Combination Company to erect a 60-stamp mill next spring, and the Canfield Silver Mining Company of New York, who own ground on the same lode, have secured a working capital of \$350,000, and intend to prosecute their operations with the vigor which the value of the property demands.

HOT CREEK.

About thirty miles northeast of Silver Bend is the District of this name, so called because a volume of hot water, issuing from a series of springs, makes a creek of respectable proportions, at least in a country where every little rivulet is so named, and where an extraordinary creek is termed a river. The belt here is much more extensive than that of Silver Bend, being at least two miles in width, and traceable for ten or twelve miles. The formation is talcose slate, capped with limestone, in which ancient sea shells and coral are abundant. Where the limestone has been stripped off by the action of water the lodes are found large and well defined; but when they crop out only through a heavy cap, the walls are not generally visible near the outcrops, and the mineral appears in small seams, as if struggling to reach the surface. By the expenditure of a small amount of labor, however, the ledges are usually exposed so as to show a fine, compact body of ore of high grade. The old Dominion, one of the best locations in the district, scarcely cropped through the limestone; but now, after a few days' work, it shows fifteen feet of first-class milling ore, assaying from \$100 up to \$5,000 per ton. The Gazette and Keystone ledges also showed very little min-

eral on the surface, when first discovered; but are now esteemed of great value. The Indian Jim, on the other hand, having been laid bare by the action of water, stands boldly out of the ground at least a hundred feet in height, and has probably not less than 50,000 tons of milling ore in sight. This ledge is certainly forty to fifty feet in width, and along its course shows more mineral than has ever been seen in any unprospected vein on the Pacific Coast.

The Silver Glance and the American Hunter are also two ledges of great promise. They are wide as well as rich, and can be traced for several thousand feet. Some of the mines referred to have recently changed hands at fair prices, and several mills are likely to be built in the district during the winter and spring months. Even assuming that the amount of \$100 to \$200 ore, obtained without any underground mining, were all the mills would have to depend on to keep them in work, a dozen would have all they could do for the next five years in reducing it. These are the mines to which the attention of capitalists is now being turned, and in a few months hence you will have good accounts of their yield of bullion.

DEVELOPED MINES.

Experience has proved that shallow mining by means of inclines and short tunnels, is far from being profitable. The mines around Austin, with their rich chloride ores on the surface, were generally opened by inclines; but as it was found that the ore became poor near the water line, the miners got discouraged, and declared the ledges were not deserving of being further developed.

Recently, however, a system of deep mining by perpendicular shafts has been adopted, with the most satisfactory results. The Great Eastern, at a depth of 500 feet, has a ledge three feet wide, and is now yielding from \$2,000 to \$3,000 in bullion. The Savage, Diana, Morgan & Muncey, Old Colony and Camargo mines are all doing well; in fact every mine-owner is now convinced that depth is all we require to give us mines of undisputed value. There have been many foolish investments made in Reese River District, and in cases where even good mines have been sold to Eastern purchasers, the management has been so bad that nothing short of a miracle could have secured a dividend to the anxious and befuddled shareholders. Everything will find its own level after a little, and time will prove that we have mines of great value even amongst the "razor blades" in and around Austin.

The Murphy mine, in Twin River District, fifty-five miles south of Austin, is looking better now than it ever did before. The lode is twenty feet wide, and 1,200 tons of ore are lying on the dump, which it is estimated will yield at least \$150 per ton. This mine was purchased last year by an Eastern incorporation for \$50,000 in gold, and is now provided with a splendid 20-stamp mill, which will start in two weeks. The Twin Ophir mine, fifteen miles north of the Murphy ledge, is found to be over twenty feet in width, and its antimonial sulphuret ore yields \$100 in the mill with scarcely any assortment.

This property, consisting of three parallel veins, was bought some months ago by a New York company for \$90,000 in currency, and will have a good mill erected upon it next spring. The Cortez mill, seventy-five miles north of Austin, is now a success, and is yielding a steady stream of bullion. It is said that the mine the company are working upon is opening in a most encouraging manner.

Austin, Sept. 28, 1866.

DELTA.

Idaho Correspondence.

EDITORS PRESS: There is some excitement here, at the present time about a false bed rock. Some miners have gone through this false rock at Placerville, and have found another bed of pay gravel, about four feet thick. It pays well. Parties have also gone through it at Centerville, and found good pay. I have also got a claim on Big Muddy creek, under this false bed rock, which pays well. To-day, I got over five dollars on one shovelful of dirt. It will not all prospect that way, however. It is said that they have also struck the same kind of diggings at Idaho City.

Should these false bed rock diggings prove extensive, they will open a new field for mining in this basin.

A piece of quartz and gold was found last week on Grimes' creek, weighing twenty-six ounces; there is about three hundred dollars in gold in it. I think there are some very rich ledges in this country somewhere. The Elk Horn quartz mill is now paying well under the new management. Yours, J. H.

Pioneer City, Idaho Ter., Sept. 17.

[We should be pleased to hear further from our correspondent with regard to this "false bed rock." What is its composition, how thick is it, how extensive, etc.? A brief mention was made of it in our mining summary of last week.]

Mechanical.

DANFORTH'S STEAM GENERATOR.

We have heard but little, of late, from this new principle of generating steam. The American *Artisan* of August 29th, says that one of these generators has been working for over a year at the works of P. W. Neefus, 231 West street, New York. It appears to be worked at a lower pressure than we had supposed this engine was intended for—100 to 107 lbs., with the temperature of the steam at about 460°, or 133° superheated. The performance, according to one day's operation, is reported as follows: "Indicated horse-power, 8.5. Water, per hour, 180.8 lbs. Coal, per 12 hours, 600 lbs.—50 lbs. per hour. Water, per hour, per indicated horse power, 21.3 lbs. Coal, per hour indicated horse-power, 5.89 lbs." Further observations are to be made, which we shall report as soon as received. No especial efforts have yet been made to economize fuel by consuming smoke, gases, etc. The work is merely experimental, and the experiment has so far been confined to simply showing that steam can be safely and economically generated on this principle. When that is fully done—and perfect confidence in the result is thus far manifested—economy in the use of fuel so employed will be looked after, with a proper class of experiments directed particularly to that object. The experiments of Perkins, McCurdy and others, forty years ago, and others still, in this country at a later period, have already indicated that a considerable advantage may be gained from the adoption of this mode of generating steam. The question appears to be simply one of details, the conclusion to which must be arrived at by a lengthy and careful course of experiments. These experiments are now in progress, and, we presume, in efficient and competent hands. We shall continue to watch their development with interest, and report thereon whenever anything worthy of note transpires.

UTILIZING EXHAUST STEAM.—MONS. P. VABE has got up an engine with two pistons on one rod, on the principle of the "Wolfe" engine. Steam is distributed by one valve. He claims that the exhaust steam in the large cylinder, whose area is double that of the small one, is as effective as it has been in the small one when it was first used; that is, the effect of the steam is doubled. There are many experiments on this kind of engine, indicating that the high pressure and low pressure engines, with the aid of surface condensation, are likely to work together. This idea is, of course, founded upon the correctness of the theory of those who advocate the plan of working steam expansively. The American *Artisan*, in alluding to the above, says: "We confess our faith in the utility of expansion, and believe that when locomotive-boilers and engines are put on board ship, and exhaust into low pressure boilers, there will be a great saving of fuel."

EXTRAORDINARY RESULTS OF SYSTEMATIZED LABOR AND IMPROVED MACHINERY.—By the systematic arrangements of labor, and the great improvements in machinery, recently introduced into the workshops of England, very superior "Barlow" knives are now turned out at a cost of about five cents each; while a very common knife is produced for about one and a half cents—less than two cents for the blade, handle and manufacturer's profit! Making full allowance for the sad commentary which this fact presents with regard to the miserably low equivalent which English operatives receive for their labor, it, nevertheless, affords a most striking evidence of the vast benefits derivable from modern machinery, and the admirable systematization of labor which is now introduced into all large manufacturing establishments.

RUST ON IRON—PAINT.—Every particle of rust on iron may be removed by first softening it with petroleum and then rubbing well with coarse sand-paper. To paint iron, take lamp-black sufficient for two coats, and mix with equal quantities of Japan varnish and boiled linseed oil.

COAL CUTTING BY MACHINERY.—A coal cutting machine is in operation in a coal mine near Leeds, England, that will cut a length of forty feet per hour, and which is so simple in construction and operation, that any ordinary miner can work it, and with but little of the risk to which he is ordinarily exposed. It is said to do the work of twenty men, at an expenditure of thirty gallons of water per minute, working at a pressure of 300 pounds per inch. It works on rails laid along the drift, so that it is easily moved and operated by one man. The cost of coal got by hand, at the mine, is about seventeen cents per ton; the cost with this machine is from six to ten cents. A model of this machine was shown and explained at a late meeting of the Institute of Civil Engineers, where it attracted much attention, as reported in *Chamber's Journal*. Why cannot coal cutting machines be economically introduced into the coal mines of the Pacific coast, where labor is so much higher than it is in the European mines?

THE FIRST ROLLING MILL was invented and put in operation in 1785. The modern method of manufacturing iron was introduced at that time; at which period the price was from \$85 to \$95 per ton. The great reduction in the cost of this universal commodity, and which has been gradually made from the figure named, to its present price, has been in consequence of further improvements which have been from time to time introduced into the various processes of its manufacture.

LACQUEAS are used upon polished metals and wood, to impart the appearance of gold. As they are wanted of different depths and shades of colors, it is best to keep a concentrated solution of each coloring ingredient ready so that it may at any time be added to produce any desired tint. We append several receipts for making different kinds of lacquers:

1. *Deep Golden-colored Lacquer.*—Seed lac, three ounces; turmeric, one ounce; dragon's blood, a quarter of an ounce; alcohol, one pint. Digest for a week, frequently shaking. Decant and filter.

2. *Gold-colored Lacquer.*—Ground turmeric, one pound; gamboge, an ounce and a half; gum-sandarach, three pounds and a half; shell lac, three-quarters of a pound (oil in powder); rectified spirits of wine, two gallons. Dissolve, strain, and add one pint of turpentine varnish.

3. *Red-colored Lacquer.*—Spanish anatto, three pounds; dragon's blood, one pound; gum-sandarach, three pounds and a quarter; rectified spirits, two gallons; turpentine varnish, one quart. Dissolve and mix as the last.

4. *Pale Brass-colored Lacquer.*—Gamboge, cut small, one ounce; cape aloes, ditto, three ounces; pale shell lac, one pound; rectified spirits, two gallons. Dissolve and mix as No. 2.

5. *Seed lac, dragon's blood, anatto, and gamboge, of each a quarter of a pound; saffron, one ounce; rectified spirits of wine, ten pints. Dissolved and mix as No. 2, forms a very excellent lacquer. Lacquer should always stand till it is quite fine before being used.*

THE LONDON PNEUMATIC DISPATCH, by which small parcels are transported from one part of the city to the other, by means of the exhaustion of air from a tube, is familiar to our readers. It appears from a report recently made by the directors of this company, that 120 tons of goods can be transmitted through the tube every hour, at a speed of eighteen miles an hour, and that the cost is less than one penny (two cents) per ton for each mile. They anticipate large dividends from the line when completed to points outside the city.

THE REVOLTING SHIP THEORY is to be reduced to practice. It will be remembered that the invention consists of a ship so constructed as to roll over the surface of the water instead of being forced through it. A company has been formed in Baltimore to test its feasibility.

BRONZING.—The following is a good method of bronzing tin castings: When clean, wash them with a mixture of one part each of sulphate of copper and sulphate of iron in twenty parts of water; dry and wash again with distilled vinegar eleven parts. When dry, polish with colcothar.

COAL OIL is a better substance for preserving potassium and sodium than naphtha. In coal oil sodium keeps its luster for months, while in the purest naphtha it is dimmed in a few days.

Scientific Miscellany.

THE EFFECT OF SUNSHINE ON COMBUSTION.

It has long been a popular notion that sunshine deadens fire. This idea has also been very generally entertained by scientific men as well. Dr. Brewer, of Trinity Hall College, Cambridge, England, in his "Handbook of Science," in speaking of the effect of sunshine upon combustion, by the rarefaction of the atmosphere, adds: "Sunshine produces also some chemical effect upon the air or fuel, detrimental to combustion." This paragraph has also been retained in the American edition of this work, revised and edited by R. E. Peterson, member of the Academy of Natural Sciences, Philadelphia. The first recorded experiments made bearing upon this subject were conducted by Dr. McReever, in 1825. His experiments led him to the conclusion that the popular impression was sustained. He found that a candle would burn away more rapidly in a painted lantern, than in one not painted—both exposed to the direct rays of the sun. He found that it required eleven minutes to burn in the sunshine the same weight of candle that burned in ten minutes in the dark lantern exposed to the same sunshine. Some other experimenters, however, differed with McReever.

In 1856, however, the matter was taken up more elaborately by Prof. Joseph Le Conte, of Columbia, S. C. He arranged a dark room in which he lighted two candles of identical make. Upon the flame only, of one, by the aid of a reflector and burning glass, he concentrated the rays of the sun; the other was suffered to burn without any contact with the sun's rays. The result showed that the effect of the sun's rays, though greatly exaggerated by concentration, did not appreciably affect the consumption of the candle.

At the late meeting of the American Scientific Association at Buffalo, Prof. Horsford, of Cambridge, read a very interesting paper upon this subject, in which he alluded to some experiments and observations of his own, going to substantiate the conclusions of Professor Le Conte, that the sun's rays do not exert any chemical effect on the process of combustion. He explained the apparent effect of Doctor McReever's lantern experiment by the well known power which dark colors have of absorbing radiant heat and converting it into heat of conduction; by which the air in the painted lantern was more heated than the air in the unpainted, whereby the tallow of the candle was warmed toward the process of liquefaction, and the heat of the flame to that extent spared for combustion.

The fact that fires in grates and stoves, which burn briskly in the fore part of the day, slacken during the hours of a warm summer's noon, has long been explained as arising from the mechanical, rather than from the chemical effects, of the sun's rays—the rarefaction of the atmosphere, in consequence of which less oxygen is brought into contact with the combustible body which is being consumed. A fire always burns more freely in a cold, frosty, winter's day than in a warm, thawing day, for the double reason that in the latter case there is less oxygen in a given quantity of air, and more moisture. For the same reason we find the great difference in the draught of our stoves observed in this city, between still foggy days and those accompanied by the brisk, dry winds of our summer months. Iron founders are not unfrequently greatly troubled to make their furnaces work properly in the midday sun of a very warm day. Housewives have often found that stove ovens, which bake well in the morning and afternoon, cannot be made to perform that service at all in the brightness of the noontide sun. A rarefied atmosphere, often rendered still more non-conductive to combustion by an excess of moisture, is the cause of the trouble.

From the above, it will be observed that the popular idea that sunshine exerts a chemical effect upon the process of combustion, is without foundation, in fact; but that the heat of the sun does exert a mechanical effect upon the atmosphere, which deprives combustion of such an amount of oxygen as to produce a very noticeable detrimental interference with that process.

SCIENTIFIC AND MECHANICAL RESEARCH.

The world once laughed at Oersted's electrical experiments, thinking that his little magnets, voltaic pile, bits of copper wire, etc., could never lead to any practical result; yet, from these little trinkets came the wonderful discovery of the electric telegraph. When Prof. Black, of Edinburgh, during his investigations into the abstract nature of caloric, made his discovery of latent heat, not even he, himself, thought it would ever lead to anything of special value; yet it was that very discovery that opened the way for Watt to make his important improvement in the steam engine. To say nothing of the great discovery of photography, and other important developments which have grown out of investigations with regard to light; perhaps the most valuable and promising of all the scientific generalizations of the last two or three decades, are those relating to the *Conservation of Force*—to heat, light, electricity, magnetism, galvanism, etc., and the convertibility of the one into the other. This class of investigations is still in its infancy, and we can as yet see but the bright glimmerings of magnificent results which philosophers confidently anticipate at an early future—results which bid fair to work not only revolutions in the great motive power—steam; but also in the very means employed for producing both it and the light by which we are enabled to continue our avocations after the light of day has declined. People sometimes think that the rapid progress in discovery and inventions of the last century, must produce a dearth in that direction during the coming century. Not so; the discoveries up to the present time, are but the preliminaries which are to serve as hints to guide the philosopher and inventor in the developments of greater wonders than have yet been dreamed of by the most profound of the world's philosophers. Each new discovery helps to others. Whenever a new truth becomes apparent, its ramifications appear inexhaustible. As we continue to explore it, its applications multiply upon every hand, till they seem limitless. Indeed, if the inventor or the scientific inquirer had but one original principle to work from, he never could exhaust it; for it would be found interlinked with the entire Universe.

THE CONDUCTIVE POWER OF MERCURY FOR HEAT.—There are peculiar difficulties in the way of ascertaining accurately the conducting power of mercury for heat; but Professor Gripon, of Lille, seems to have overcome them very successfully, and to have made a determination which may be regarded as very closely approximating to absolute accuracy. It shows the conductivity of mercury for heat to be 407-1,000ths of that of lead. Experiments made after Peclet's method shows that if the conducting power of silver is 100, that of mercury is 3.54. Mercury expands, therefore, the last of the metals, and a little before marble and gas coke. It should be observed, however, that the conducting power of this metal for heat and for electricity are very different, the former being 3.54, the latter 1.80.

CRACKS IN FURNITURE may be advantageously filled by the following composition: Moisten a piece of recently burned lime with enough water to make it fall into powder; mix one part of this slacked lime with two parts of rye flour, and a sufficient quantity of boiled linseed oil to form it into a thick, plastic mass.

A new test for acids and alkalies, called "cyanin," has been discovered by a German chemist. It is an artificial blue, obtained by acting on chinoline with iodide of amylen. Its delicacy as a test for acids and bases is quite marvelous, and far superior to litmus.

Common phosphorous bears, for twenty or thirty seconds without ignition, the action of a radiant heat at a focus where, in the fraction of a second, platinated platinum is raised to a white heat.

It is said that sands which are used as a filter for the purification of water are only effective when they contain the black oxyd of iron or magnetic carbide.

[From the Mercantile Gazette and Prices Current.]
QUARTERLY MINING REVIEW.

At no time, perhaps, have mining interests and operations on this coast been in a more healthy and generally satisfactory condition than at the present, whether we consider their actual or prospective productiveness. The yield of the placers during the past quarter has equalled, if not exceeded, the average for corresponding periods of late years. The mountain spring rains greatly benefited such claims as are mainly dependent on this source for their water supply, filling at the same time the ditches, streams, and artificial reservoirs that furnish this necessary element throughout the dry season, and upon which a still larger and more important class of claims is dependent. A number of improvements of this kind, some of them of a very permanent and expensive character, have been completed the past summer. The employment of iron pipes of large dimensions constitutes a new and valuable feature in this system of aqueducts, since they serve to carry the water to points inaccessible by the modes formerly in use. Some of these pipes have a diameter of nearly three feet, and stretching across valleys convey the water from one mountain side to another, furnishing to large communities of miners a constant and copious supply, and securing such a head as is most desirable in hydraulic diggings. Through the agency of these pipes the cost of building ditches has been materially reduced, the construction of lofty and expensive flumes being thus avoided, while water has been furnished in greater abundance and at less price to the consumer. In these massive and costly works, scattered all over the mining regions of California, and constructed for the most part by local capital and the labor of the miner, we find evidences of not only the skill, energy, and perseverance of this class of citizens, but also of their confidence in the mineral resources of the country. In view of the many economies that have been effected in this branch of mining, it seems probable that it will not only maintain its present yield, but that it will steadily continue to enlarge the same, as it has done for several years past. Nor is it to be presumed that these improved modes and labor-saving devices will stop where they are, but rather that these agencies will be multiplied in future, even as new discoveries will continue to be made in the mines themselves.

The history of mining upon this coast has been one of steady and rapid progress. From the time operations were carried on with the pan and rocker to the present day there has been a persistent advancement, until these simple implements and modes have been superseded by others not a little complicated, and demanding a considerable amount of skill and capital for the successful prosecution of the business as now carried on. But with these new demands have come corresponding benefits, by means of which the gross products of the placers has been kept up to its present high standard and the individual earnings of the miner maintained at rates scarcely below what they were ten years ago, notwithstanding the rapid exhaustion of the more superficial deposits so easily reached and so readily disposed of in the earlier stages of mining in California. Through these same instrumentalities vast quantities of auriferous earth, formerly deemed worthless, are now being wrought with profit, while in many places abandoned claims have been reoccupied, and from the refuse dirt and tailings of other days excellent wages have been realized. In view of all this it may well be conjectured that much mining ground, too poor to pay by the methods now in vogue, will yet be made to yield remunerative profits through the introduction of more efficient machinery and economical modes of working.

With an increased activity and fair returns in the older placers, surface diggings, in some instances of considerable extent and apparent richness, continue to be found outside their limits; and, although few of these have as yet proved prolific, they serve to indicate a wide distribution for the auriferous deposits of California, and open a possible chance for a further expansion of her productive gold fields. Among these outside localities, Mendocino county holds a prominent place—surface diggings on quite an extended scale having recently been found within its limits, much of which it is thought could be rendered steadily remunerative with an ample supply of water, and can now be worked to advantage during the rainy season. The site of these diggings is situated wholly to the westward of the Coast Range, and in a country not heretofore considered gold-bearing.

In glancing cursorily at the results of placer mining during the past quarter, we find—beginning in the northern part of our territory—that the mines on the upper Columbia, about Colville and Big Bend, have not turned out according to the expectations entertained of them last spring. While a few have done well, most of the adventures to that remote region have accomplished but little—many, discouraged by the great cost of living and the limited extent of the mines, having left early in the season. In Eastern Oregon and Idaho some few additional discoveries have been made the past summer, while several of the old locations have turned out well. Hill diggings, reported to be rich, have been struck in Boise county, Idaho, and a number of companies, both there and elsewhere in the Territory, have been washing out large quantities of dust. But the principal wealth of that whole region is lodged in the quartz mines, which are unquestionably rich and numerous—the facilities for opening them and reducing the rock being at the same time very great. From Klamath, Siskiyou, Trinity and Shasta counties, covering the more northerly gold districts of our own State, the accounts are as a general thing favorable, and in many cases highly flattering. Much activity prevails throughout that section, labor being in demand and population on the increase, and it seems probable that there is not at present a more inviting field than this open to mining enterprise in any part of the State. The country is, moreover, healthy and well supplied with timber and water, containing at the same time a large extent of virgin mining ground wholly unoccupied and but little prospected. It is, however, somewhat difficult of access, contains but little agricultural land, has deep snows on the mountains, and possesses a cold and rigorous climate in the winter. Along the more central and southern portions of the great gold-bearing belt of California, the labors of the placer miner have in like manner been generally well rewarded, warranting the inference that the aggregate annual product from this source—though less now than in the early days of mining—is on the increase, and that this increment will be still more marked in the future than it has been for the past few years.

While lack of space precludes our citing individual examples of success in this department of mining, we may say the greatest gains seem to have been made in the river bed, hydraulic, cement and gravel branches of the business. The first of these, in consequence of the heavy disasters that have so often attended it, had come to be nearly abandoned. But, profiting by past experience, most of these enterprises have this year been crowned with algal success, some of them having secured large sums with a comparatively trifling expenditure of capital and labor. Many of the hydraulic companies have also cleaned up immense quantities of dust; the cement and gravel claims having in the aggregate done equally well. These latter, it has recently been determined, have a greater value as well as a far wider scope than was

formerly supposed, and already the theatre of very extended active operations, they promise to become ultimately one of the most lucrative and lasting sources of our mineral wealth. In the progress of their development numerous costly shafts and tunnels and other underground works of an expensive and elaborate kind have been completed, while still others of equal or even greater magnitude have been entered upon or projected. From much of this cement the gold can be released only by the process of pulverization; hence many stamping mills have recently been erected for the purpose of crushing and working it after the manner of auriferous quartz. Many of these mills are of large capacity, carrying from ten to forty stamps, each of which are capable of crushing two tons of cement per day. Portions of this material are very rich in free gold, besides containing much combined with sulphurets. Worked in the mills the yield ranges from \$30 to \$50 per ton, a great deal of it turning out a much larger amount. In this estimate the sulphureted ores, often the richest part, are not included. From the gravel, as well as the less indurated portions of the cement, the gold is extracted by sluice washing, the results frequently being large and occasionally enormous. The product of some of these claims averages more than a thousand dollars per day for months in succession. The preliminary outlay, however, in bringing them to a productive stage is often very heavy. Some of the tunnels leading to these cement and gravel deposits have required six or eight years of constant labor for their excavation, the attendant expense amounting in many instances to more than a hundred thousand dollars. An outlay of twenty or thirty, and even fifty or sixty thousand dollars, in the prosecution of these works is of common occurrence, while it must not be overlooked that many of them when completed barely defray the current expense of working, or result in total failure. Taken as a whole, however, they may be considered a successful branch of mining, and as a consequence are growing rapidly in favor with both moneyed men and practical miners. Looking over the whole field of placer mining, as exhibited upon this coast for the past three months, the business may justly be accounted to have been at least moderately prosperous, a condition that there is every reason to believe it will be able to maintain in the future.

QUARTZ MINING.

While, as we have seen, the placers of California are far from being exhausted; and while the past season has been every way auspicious in this department of mining, still, the foundations of her greatest mineral opulence and most enduring wealth, will be found to lie in her veins of auriferous quartz, the business of reducing which, although already expanded into magnificent proportions, is insignificant compared with what it will hereafter become. How extensive the area of these quartz mines may be or with what profit they can eventually be worked, are questions of time, enough having been determined to prove the former almost coextensive with our Pacific possessions, and to demonstrate that the probable limit to this branch of mining will be conditioned upon the amount of capital that may hereafter be embarked in its prosecution.

Of the early history of the business in this State—of its struggles and failures, relieved by but few cases of success—it is not our purpose at this time to speak. Enough that the pursuit has survived these disasters and is to-day on a firm and prosperous footing, with very little to cause apprehensions for its future. That there will continue to be cases of failure and loss hereafter, as there have heretofore been, in the prosecution of this business, must be expected. In every calling parties will be found unwilling to comply with the most obvious requirements to success even when well understood. Incapacity, cupidity, folly and fraud, cannot be wholly guarded against. The infirmities of human nature will display themselves in quartz mining as well as in every other pursuit. There being, moreover, other causes of failure and agents of defeat inherent in this business, and which will often frustrate the best devised plans and carefully executed operations. It is not to be denied that with all the improvements made and knowledge gained this branch of mining is in many instances still attended with trouble and uncertainty; though not with more, perhaps, than is incident to most other pursuits in their earlier stages, especially when undertaken in a new country. However this may be, one thing is certain, the business as a general thing is now being made to pay and in many cases very largely. Where entered upon with judgment and conducted with prudence the examples of failure have been comparatively few for several years past, and with increasing experience it is but reasonable to infer that the chances for success will be all the while improving.

There are also other points of view from which this business presents a more cheering aspect than formerly. The spirit of speculation, long so rife, and in which most of the mistakes and follies that proved so disastrous had their origin, has about subsided, having given place to more practical and sensible ideas and modes of procedure. The expensive and vexatious litigation that hung over so many claims, alarming capitalists more than all other causes combined, has been pretty well disposed of. The day of useless and extravagant expenditure, as well as extravagant expectation, is also well nigh over. In embarking in quartz mining and mining something of the economy and discretion manifested in other affairs is exhibited, and certain rather than excessively large returns are looked for. With these wise changes have of course come better results. Success has taken the place of failure, and profit has pretty generally been substituted for loss. In fact these reforms have led to such advancement in practical operations that quartz can now be worked with gain that the millman could not a few years ago afford to pass through his batteries for all it contained. Thousands of tons of rock are now being worked with profit that would not then pay cost of hauling from the mine to the mill. Five and six dollar rock, in favorable localities, is now considered a very good thing; whereas the mining enterprises first initiated were based upon the supposition that the quartz would pay from forty to sixty dollars per ton, many of the estimates designed as the basis of business operations being much higher. With water power and favorable surroundings money can now be made crushing quartz from which not more than four dollars per ton can be extracted. The average cost of crushing and amalgamating in this State is now about two dollars per ton—some mills performing these operations for less than one dollar. In Idaho and other localities in the remote interior the cost is somewhat greater. This is for ordinary quartz treated simply by the gold-saving process. The reduction of extremely rich gold-bearing rock and silver ores is attended with much greater expense. The cost of mining and working the common grade silver ores at Virginia City, Nevada—which constitutes the great bulk sent to the mills—is about fifteen dollars per ton each, making a total of thirty dollars. The average yield of these ores is forty-four dollars per ton, giving a clear profit of fourteen dollars on every ton of ore worked. But it must be remembered that the sums spent upon these mines in their development, the erection of mills and for various other purposes are very large, amounting in some cases to several millions of dollars. The business of silver mining in that State having been in a good measure purged of the abuses that for a period greatly retarded and

even threatened to seriously cripple it, is now being carried on with more satisfactory results; the yield of bullion for the present promising to equal that of any former year, the cost of its production having meantime been considerably curtailed. In view of the extent of her mines and the large amount of capital now being applied to their development, this staple of Nevada will no doubt be vastly augmented within the next few years.

NEW AND IMPORTANT MINERAL DISCOVERIES.

Among recent mineral discoveries meriting attention is that of a metalliferous mass, near the town of Lincoln, Placer Co., consisting of large quantities of iron pyrites and several varieties of copper ore, imbedded in taceous slate, the whole carrying such a notable per centage of gold as to warrant its being worked for this metal alone, though there is an absence of any well defined vein of quartz. This metalliferous group lies in a small hill, from the sides of which the slate outcrops for a width of two hundred feet, the work of exploration being carried on by means of an open cut after the manner of a quarry. The entire body of this material is soft and chertous and is so easily pulverized that a five-stamp mill now running upon it is capable of crushing forty tons per day. It yields by the present imperfect mode of working from five to six dollars per ton, an amount which it is thought might be nearly doubled by a more effectual style of treatment. This property, having lately passed into the hands of a company possessed of ample means, is to be at once made available to its fullest capacity—a 40-stamp steam mill designed to work the rock now being in course of construction. The discovery of this deposit, or rather the turning of it to immediate practical account, the actual finding having transpired some two years ago, is to be looked upon as an event of no little importance, there being doubtless others of a like kind elsewhere in the State, the speedy development of which may be anticipated in view of the success that is likely to attend this pioneer effort at what may justly be denominated gold quarrying. In fact, deposits closely resembling that above alluded to have already been found at points known as Quail Hill, and also at Rich Guleb in the County of Calaveras. These mines have lately been sold for large sums to capitalists in this city, who intend proceeding at once to build mills for working them on a very extensive scale, it being the opinion for both scientific and practical men, many of whom have carefully examined them, that they will prove the most easily worked and lucrative mines in the State. The peculiar value of these remarkable deposits consists in the abundance of material, the slight cost at which it can be taken from the mine, and the facility with which it can be crushed, the entire expense of these operations being so trifling that it is estimated that rock which will pay no more than one dollar to the ton can be worked with profit. This, it will be remembered, is a gain upon even the extraordinary cheapness with which ores are represented to have been worked in Australia, the announcement of which caused no little wonderment in mining circles when made here a short time since. The rock operated upon in that colony was undoubtedly of a like soft character with this found near Lincoln and in Calaveras County, a fact that readily reconciles us to accept that statement as true.

COPPER, COAL, IRON, ETC.

Besides the precious metals so profusely scattered over our Pacific possessions, they are equally prolific in almost every species of useful metal, as well as a great variety of mineral substances largely demanded for use in the manufacturing arts, commerce, mining, and almost every other industrial pursuit. Of copper ores California is annually sending abroad ship loads, extracted from her rich and extensive veins only a small per centage of which have yet been developed to a productive stage. Very promising deposits of Coal, of an excellent quality, have been found in various parts of the State, and from the flattering success attending the working of the Mount Diablo mines, the only ones yet opened to any extent, there is reason to hope that we shall be able in a few years to extract from our own soil a sufficiency of this fuel to meet every home requirement. Our Quicksilver mines, noted throughout the world, have long been turning out enough of this metal to supply the large home consumption with a heavy surplus for exportation. The New Almaden, our principal mine, is now in a flourishing condition, while a number of other deposits, situated in different parts of the country, are beginning to yield considerable amounts of metal, with every prospect of being able to speedily enlarge the same.

Of Iron ores we have unlimited quantities, and of superior quality—some of it assaying 90 per cent. of metal, and being adapted to produce the best of steel. Works on a limited scale have been erected in this city to test portions of these ores, which, if the experiment is encouraging, will probably lead to attempts at manufacturing on a large scale. Borax, Salt, Lead, Manganese, Sulphur, Nitre and various other minerals, and a host of other mineral and metallic substances of home production—a list that will no doubt soon be made to embrace a large number of other articles, inasmuch as nature has supplied us with the crude material in the greatest variety and abundance. Already we are manufacturing from these salts a sufficiency of such acids as are required in the reduction of ores and the refining of metals to meet domestic requirements—the home-made article, besides being cheaper, being preferred to that formerly supplied from abroad.

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San Francisco Stock and Exchange Board.

FRIDAY EVENING, October 12, 1866.

United States 7 3/10ths.	Bid.	Asked.
Gov. Legal Tender Notes.	75 1/2	76
State Bonds, 7 1/2 cent.	70 1/2	71
San Francisco 10 1/2 cent.	100	105
San Francisco Bonds, 1856, 6 1/2 cent.	72	75
San Francisco Gas.	126	138
San Francisco Bonds, 1858, 6 1/2 cent.	69	71
Sacramento City Bonds, 6 1/2 cent.	19	21
Sacramento County Bonds, 6 1/2 cent.	61	65
Marquette Bonds, 10 1/2 cent.	75	82
Stockton Bonds, 10 1/2 cent.	85	95
Yuba County Bonds, 10 1/2 cent.	80	85
Butte County Bonds, 10 1/2 cent.	70	80
California Navigation Co.	71	72
State Telegraph Stock.	32	35
Sacramento Gas Co.	75	78
Spring Valley Water Co.	57 1/2	58 1/2

RAILROADS.

Sacramento Valley Railroad.	55	60
Central Railroad Co.	55	65
North Beach and Mission.	45	48

MINING STOCKS.

Alpha.	Bid.	Asked.
Baltimore American.	10	10
Bullion, G. H.	10	10
Belcher.	77 1/2	80
Confidence.	50	51
Ophir.	160	175
Gould & Curry.	—	590
Empire M. & M. Co.	68	75
Sage.	1185	1200
Shafter.	109	117
Hale & Norcross.	1675	1800
Whitcomb & Murphy.	—	—
Sierra Nevada.	1 1/2	1 1/4
Yellow Jacket.	715	720
Overman.	—	—
Crown Point.	925	975
Imperial.	75	80

San Francisco Market Rates.

WHOLESALE PRICES.

FRIDAY, Oct. 12, 1866.

Flour, extra, 1/2 hbl.	5 50 @ 6 00
Do Superfine.	5 00 @ 5 25
Coro Meal, 100 lb.	2 00 @ 2 50
Wheat, 100 lb.	1 40 @ 1 70
Oats, 100 lb.	1 45 @ 1 55
Barley, 100 lb.	1 40 @ 1 50
Beans, 100 lb.	3 50 @ 4 00
Potatoes, 100 lb.	75 @ 1 00
Hay, 100 lb.	8 00 @ 15 50
Live Oak Wood, per cord	8 00 @ 10 00
Beef, on foot, 1/2 lb.	6 @ 8
Beef, extra, dressed, 1/2 lb.	10 @ 12 1/2
Sheep, on foot, 1/2 lb.	4 00 @ 5 00
Hogs, on foot, 1/2 lb.	12 @ 9
Corn, dressed, 1/2 lb.	12 1/2 @ 13

GROCERIES, ETC.

Sugar, crushed, 1/2 lb.	12 1/2 @ 11
Do China.	10 @ 11
Coffee, Costa Rica, 1/2 lb.	24 @ 25
Do Rio.	23 @ 24 1/2
Tea, Japan, 1/2 lb.	80 @ 90
Do Green.	50 @ 1 25
Hawaiian Rice, 1/2 lb.	9 @ —
China do.	6 1/2 @ 7 1/2
Coat Oil, gal.	65 @ 70
Candles, 1/2 lb.	18 @ 22 1/2
Ranch Butter, 1/2 lb.	30 @ 35
Isthmus do.	30 @ 37 1/2
Cheese, California, 1/2 lb.	10 @ 11
Eggs, per doz.	50 @ —
Lard, 1/2 lb.	18 @ —
Ham and Bacon, 1/2 lb.	20 @ 21
Shoulders.	12 1/2 @ 15

Retail Prices.

Butter, California fresh 1/2 lb.	45 @ 65
do pickled 1/2 lb.	38 @ 50
do Oregon.	35 @ —
do New York, 1/2 lb.	40 @ 50
Cheese, 1/2 lb.	15 @ 25
Honey, 1/2 lb.	30 @ 40
Eggs, per doz.	50 @ 60
Lard, 1/2 lb.	22 1/2 @ 25
Hams and Bacon, 1/2 lb.	22 1/2 @ 25
Cranberries, 1/2 gal.	15 @ 100
Potatoes, old, 1/2 lb.	— @ —
do New 1/2 lb.	1 @ 1 1/2
Tomatoes, 1/2 lb.	6 @ 6
Onions, 1/2 lb.	3 @ 6
Apples, No. 1, 1/2 lb.	3 @ 6
Pears, table 1/2 lb.	8 @ 10
Plums, dried, 1/2 lb.	20 @ 22
Peaches, dried, 1/2 lb.	15 @ —
Oranges, per doz.	50 @ —
Lemons, per doz.	75 @ —
Chickens, quere.	87 @ 1 72
Soap—Palm & C. O.	8 @ 10
Castile.	— @ 15

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.)

FRIDAY, Oct. 12, 1866.

IRON.—Duty: Pig \$9 per ton; Railroad 60c per 100 lbs; Bar 1 1/2c per lb; Sheet, polished, 3c per lb; extra, 1 1/2c per lb; Plate 1 1/2c per lb; Pipe, 1 1/2c per lb; Galvanized 2 1/2c per lb.	
Scotch and English Pig iron.	37 @ 38
American Pig iron.	30 @ 35
Refined Bar, bad assortment, 1/2 lb.	3 @ —
Refined Bar, good assortment, 1/2 lb.	3 1/2 @ —
Boiler No. 1 to 4.	4 @ —
Plate No. 5 to 9.	4 1/2 @ 6
Sheet No. 10 to 13.	4 @ —
Sheet No. 14 to 20.	5 @ —
Sheet No. 24 to 27.	5 1/2 @ —
COPPER.—Duty: Sheathing 3 1/2c per lb; Pig & Bar 2 1/2c per lb.	
Sheathing 1/2 lb.	24 @ 26
Sheet, Yellow.	20 @ 20
Sheet, Old Yellow.	27 @ 28
Boils.	13 @ 16
Composition Nails.	30 @ 32
TIN PLATES.—Duty: 2 1/2c per lb.	
Plates, Charcoal, 1X per box.	15 @ —
Plates, 1 C Charcoal.	13 @ —
Sheet, Tin Slabs, 1/2 lb.	11 @ —
Bacon Tin Slabs, 1/2 lb.	12 1/2 @ 15
STEEL.—English Cast Steel, 1/2 lb.	12 @ 15
QUICKSILVER.—Per lb.	— @ 60
For export.	— @ 60
ZINC.—Sheets 1/2 lb.	— @ 11
Lead.—Pig 1/2 lb.	8 @ 9
Sheet.	10 @ —
Pipe.	10 @ —
Bar.	10 @ —
BORAX.—California, 1/2 lb.	20 @ 23

CHANGING THE ADDRESS.—No charge is made for changing the address of this paper. To give all necessary information, write us plainly as follows: "Change address of the Mining and Scientific Press from Mr. ... at ... P. O., ... County, ... State, to Mr. ... at ... P. O., ... County, ... State, ... 1866."

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, October 8.

1 sh Chollar-Potosi at 115 per foot.
 1 sh Chollar-Potosi at 114 per foot.
 1 sh Chollar-Potosi at 113 per foot.
 3 shs Chollar-Potosi at 112 per foot o.
 6 shs Chollar-Potosi at 119 per foot, h 0.
 6 shs Chollar-Potosi at 109 per foot.
 11 shs Chollar-Potosi at 109 pr ft, s 3.
 10 shs Chollar-Potosi at 110 per foot.
 1 sh Yellow Jacket at 740 per foot.
 1 shs Yellow Jacket at 742½ per foot.
 2 shs Yellow Jacket at 742½ per foot o.
 1 sh Yellow Jacket at 733 per foot s 30.
 3 shs Yellow Jacket at 744 per foot.
 6 shs Yellow Jacket at 745 per foot.
 1 sh Yellow Jacket at 745 per foot, s 3.
 1 shs Yellow Jacket at 750 per foot s 30.
 2 shs Yellow Jacket at 750 per foot h 10.
 2 shs Yellow Jacket at 745 per ft, s 10.
 2 shs Yellow Jacket at 747½ per foot.
 60 shs Ophir at 195 per foot, h 30.
 24 shs Ophir at 187½ per foot, s 10.
 24 shs Ophir at 186 per foot.
 12 shs Ophir at 186 per share h 10.
 6 shs Savage at 1130 per foot, s 30.
 3 shs Savage at 1132½ per foot, h 5.
 1 sh Savage at 1130 per foot, c.
 1 sh Savage at 1130 per foot.
 2 shs Savage at 1160 per foot, h 30.
 1 sh Savage at 1032½ per foot.
 1 sh Belcher at 92½ per foot.
 2 shs Belcher at 90 per foot.
 1 sh Belcher at 87½ per foot s 3.
 9 shs Bullion at 14 per share.
 10 shs De Soto at 3½ per share, s 3.
 5 shs Overman at 17 per share.
 22 shs Overmen at 16½ per share.
 10 shs Overman at 16½ per share, s 3.
 65 shs Overman at 16½ per share.
 10 shs Overman at 16½ per share, s 10.
 5 shs Imperial at 84 per share, h 30.
 4 shs Cal Steam Nav Co at 72 per cent.
 2 shs Cal. Steam Nav. Co. at 72½ p c, s 3.
 Amount of sales..... \$ 42,709.

Monday, October 8.

3 shs Alpha, O. L. at 70 per foot.
 3 shs Savage at 1175 per foot.
 1 sh Savage at 1100 per foot, h 30.
 1 sh Savage at 1175 per foot, h 3.
 4 shs Crown Point at 930 per foot.
 4 shs Crown Point at 920 per foot s 30.
 12 shs Ophir at 185 per foot, s 3.
 12 shs Ophir at 185 per foot.
 2 shs Gault & Curry at 530 per foot.
 2 shs Yellow Jacket at 745 per foot.
 2 shs Yellow Jacket at 745 per foot s 3.
 1 sh Yellow Jacket at 747½ per ft s 3.
 3 shs Yellow Jacket at 747½ per foot h 3.
 3 shs Yellow Jacket at 747½ per foot.
 1 sh Chollar-Potosi at 189 per foot.
 5 shs Chollar-Potosi at 114 per foot, h 30.
 12 shs Empire M & M Co. at 70 per sh.
 1 sh Empire M & M Co. at 70 per sh h 3.
 1 sh Empire M & M Co. at 72½ per sh.
 3 shs Empire M & M Co. at 73 per share.
 1 sh Empire M & M Co. at 71 per sh s 3.
 15 shs Overman at 16½ per share s 30.
 20 shs Overman at 16½ per share.
 6 shs Overman, at 16 per share, s 30.
 10 shs Overman at 16½ per share, s 3.
 25 shs Overman at 16½ per share
 10 shs Overman at 17 per foot, s 3.
 10 shs Overman at 16½ per share, h 10.
 30 shs Overman at 17 per share.
 6 shs Imperial at 81 per share.
 \$5,000 Legal Tender Notes at 71½ s 3.
 \$2,000 Legal Tender Notes at 71½, s 30.
 \$5,000 Legal Tender Notes at 71½ s 3.
 \$5,000 Legal Tender Notes at 71½.
 \$1,000 Kentucky R R & Coal Co Bids at 20

AFTERNOON SESSION.

1 sh Yellow Jacket at 743 per foot s 3.
 2 sh Yellow Jacket at 745 per foot.
 2 shs Yellow Jacket at 745 per foot s 3.
 2 shs Yellow Jacket at 744 ner foot.
 1 sh Yellow Jacket at 743 per foot s 10.
 1 sh Yellow Jacket at 746 per foot h 6.
 2 shs Yellow Jacket at 745 per foot h 2.
 12 shs Ophir at 152½ per foot.
 5 shs Chollar-Potosi at 113 per foot h 30.
 1 sh Chollar-Potosi at 108 per ft.
 230 shs Oney at 5 per foot.
 3 shs Empire M & M Co. at 77½@76 pr sh.
 4 shs Empire Mill & M. Co. at 80½@79 pr sh.
 3 shs Empire M & M Co. at 80 per sh h 3.
 1 sh Empire M & M Co. at 78 per share.
 10 sh Overman at 17 per share.
 5 shs Overman at 16 per share, s 30.
 6 shs Golden Rule at 25 per snare.
 5 shs Sierra Nevada at 2 per share.
 \$8,500 U. S. 7-30 Bonds, June at 75½@76c.
 \$3,500 U S 7 310 Bonds, June, at 75½c.
 \$5,000 Legal Tender Notes at 71½c.
 \$5,000 Legal Tender Notes at 71½c s 3.
 Amount of sales.....\$ 60,575 00

Tuesday, October 9.

1sh Savage at 1109 per foot, a 3.
 1sh Savage at 1135 per foot, a 3.
 1shs Savage at 1135 per foot, s 3.
 2shs Yellow Jacket at 745 per ft, s 3.
 1sh Yellow Jacket at 737 1/2 per foot.
 1sh Yellow Jacket at 740 per foot, b 5.
 1sh Yellow Jacket at 735 pr ft s 3.
 2shs Yellow Jacket at 735 per ft b 5.
 2shs Yellow Jacket at 735 per foot s 3.
 1sh Chollar-Potosi at 105 per foot.
 3shs Chollar-Potosi at 103 per foot, s 3.
 2shs Chollar-Potosi at 100 per foot, s 3.
 5shs Chollar-Potosi at 101 per foot, s 30.
 5shs Chollar-Potosi at 105 per ft b 30.
 2shs Chollar-Potosi at 102 1/2 per foot s 3.
 4shs Ould & Curry at 555 per foot s 3.
 12shs Ophir at 180 per foot.
 1 shs Imperial at 82 per share.
 1sh Imperial at 81 per share, h 3.
 4shs Imperial at 80 per share.
 3shs Imperial at 79 per share, s 3.
 5shs Imperial at 50 per share.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, October 13th, 1866.

In City Stocks little has been doing for some time past. During the week just closed most of the insurance companies declared their usual quarterly dividends, which we enumerate more in detail below.

At the annual meeting of the Home Mutual Insurance Co., held on the 10th inst., Henry C. Lee was elected Vice President in place of J. G. Jackson, resigned. This was the only change made in the old Board. The assets on Oct. 10th were reported at \$354,000; on Dec. 31, 1865, they were \$226,000, showing an increase of \$128,000. Fire Risks written up during this year amount to \$1,786,000; Marine, \$234,000. Risks in force at this date, \$1,162,000. The stock of this Company has been changed from \$1,000 to \$100 per share.

The Pacific Insurance Company paid a dividend yesterday of 6 $\frac{1}{2}$ cent. for the quarter ending Sept. 30th. This stock we quote at \$174 asked. California Insurance Co. also declared 6 $\frac{1}{2}$ cent., payable on the 15th. San Francisco Ins. Co. declared 4 $\frac{1}{2}$ $\frac{1}{2}$ cent. for the quarter. Cal. Home Ins. Co., we understand, has declared 3 $\frac{1}{2}$ cent. for the quarter, payable on and after the 12th inst. The San Francisco and Oakland R. R. declared a dividend of $\frac{1}{2}$ $\frac{1}{2}$ cent. on their capital stock, payable on the 15th inst. During the week, California Steam Navigation Co. sold at 72@71 $\frac{1}{2}$ $\frac{1}{2}$ cent. We quote it at 71 $\frac{1}{2}$ cent. at the close. Spring Valley W. W. Co. was sold during the week at 58 $\frac{1}{2}$ $\frac{1}{2}$ cent.

Some \$12,000 of U. S. 7-10 June Bonds were sold within a range of 76@75¾c during the week. Legal Tenders to the amount of \$70,000 changed hands at 71¼@70¾c.

From a carefully compiled record of the sales in the San Francisco Stock and Exchange Board, we give the following very interesting figures, extending over a period of two years and nine months:

	MON. A.	1864.	1865.	1866.
January.		\$3,484,284 75	\$1,901,598 75	\$2,327,137 00
February.		2,726,420 50	2,358,556 00	3,752,232 00
March.		2,976,792 00	2,582,525 00	5,882,275 00
April.		2,619,072 00	4,339,032 00	4,038,096 00
May.		1,688,285 00	5,635,649 00	3,452,102 00
June.		2,617,000 00	4,771,640 00	2,406,311 00
July.		1,397,537 50	7,742,233 00	1,553,873 00
August.		839,062 75	4,231,018 00	1,284,451 75
September.		1,235,390 75	4,839,591 00	1,738,190 75
October.		1,957,500 00	4,360,530 00	
November.		1,681,152 25	3,051,996 00	
December.		2,372,465 25	4,777,437 00	
Totals.		\$25,832,715 00	\$39,205,819 75	\$25,871,618 75

During the year 1864 the transactions were principally confined to Mining Stocks. This has not been the case in 1865 and 1866; while the Mining Stock sales have decreased very materially. City Stocks, Government Bonds, Legal Tender Notes, etc., have been quite largely dealt in, and the business in these securities is gradually augmenting and becoming more and more the basis of brokerage operations. The large increase of nearly \$24,000,000 in the sales of 1865 as against those of 1864, may be attributed mainly to the sale of Bonds, etc., in connection with Mining Stocks. It will also be noticed that the sales of the nine months of the present year sum up more than the entire year of 1864—showing an increased business for 1866 from other than Mining Stock sales.

Sales of Mining Shares during the past week have taken a wider range than for some time past, the stocks of some twenty different companies having been dealt in. Both the Hale & Norcross and Savags companies have increased their dividends this month, respectively declaring \$100 and \$75 per foot. A healthier period in mining stocks seems to be approaching, and we have encouraging information from various quarters.

The receipts of Bullion by the following prominent companies during the period under review, we have collected from official sources.

1 shs Empire M & M Co. at 75 per share.
25 shs Overmau at $16\frac{1}{2}$ per share.
10 shs Overman at $16\frac{1}{2}$ per share, a 3.
10 shs Overmau at $16\frac{1}{2}$ per share, s 3.
19 shs Overman at $16\frac{1}{2}$ per share.
1 sh Overman at $15\frac{1}{2}$ per share.
40 shs Overman at $16\frac{1}{2}$ per share, s 3.
5 shs Overman at $16\frac{1}{2}$ per share, s 3.
10 shs Overman at $16\frac{1}{2}$ per share, h 20.
10 shs Overman at $16\frac{1}{2}$ per share, s 3.
5 shs Overman at 16 per share s 20.
6 shs Overman at 16 per share, s 30.
60 shs Overman at $16\frac{1}{2}$ per share.

AFTERNOON SESSION.

12 shs Ophir at 180 per foot.
 12 shs Ophir at 175 per foot, h. 2.
 12 shs Ophir at 170 per foot h. 2.
 12 shs Ophir at 170 per foot, h. 15.
 12 shs Ophir at 165 per foot, s. 30.
 12 shs Ophir at 165 per foot, s. 30.
 12 shs Ophir at 172½ per foot, s. 30.
 12 shs Ophir at 172½ per foot, s. 30.
 12 shs Ophir at 172½ per foot, s. 30.
 12 shs Ophir at 172½ per foot, h. 16.
 12 shs Ophir at 172½ per foot, h. 30.
 24 shs Ophir at 167½ per foot s. 30.
 36 shs Ophir at 171 per foot, h. 15.
 4 shs Chollar Potot at 100 per foot.
 1 sh Yellow Jacket at 74½ per foot s. 3.
 1 sh Yellow Jacket at 73½ per foot s. 3.
 1 sh Yellow Jacket at 73½ per foot, h. 30.
 1 sh Yellow Jacket at 73½ per foot
 1 sh Empire M. & M Co. at 80 per sh h. 10.
 4 shs Empire M. & M Co. at 80 per sh, h.
 1 sh Empire M. & M Co at 78½ per share
 1 sh Empire M. & M Co, 78½ per sh.
 1 sh Empire M. & M. Co. at 80, h. 10.
 10 shs Overman at 16½ per share.
 10 shs Overman at 16½ per share.
 10 shs Overman at 16½ per share.
 5 shs Overman at 16½ per share s. 5.
 5 shs Overman at 16½ per share, s. 3.
 5 shs Overman at 16½ per share s. 30.
 5 shs Overman at 16½ per share, s. 30

Wednesday, October 10.

1 sh Yellow Jacket at 725 per foot.
1 sh Yellow Jacket at 720 per foot s 3.
1 sh Yellow Jacket at 720 per foot h 3.
1 sh Yellow Jacket at 722½ per foot.
2 shs Yellow Jacket at 725 per foot.
2 shs Chollar-Potosi at 95 per foot, s 30.

giving also in this connection a full summary of the number of tons of ore from which the several amounts have been produced :

COMPANY.	July.	August.	September.	Total.	Tons Ore Reduced.
Hale & Norcross.....	\$158,898 00	\$118,000 00	\$150,719 49	\$408,602 49	8,236
Yellow Jacket.....	174,708 00	379,690 92	259,690 78	\$814,090 70	26,860
Savage.....	2,500 00	1,400 00	1,400 00	\$5,300 00	10,200
Gould & Curry.....	158,700 00	134,395 23	177,821 35	\$470,916 58	12,800
Grain Point.....	36,567 00	69,431 00	120,000 00	\$325,000 00	6,325
Imperial.....	68,418 16	76,840 22	76,459 67	\$221,718 05	10,200
Chollar-Potosi.....	72,000 00	67,000 00	63,000 00	\$202,000 00	8,342
Empire Mills & M. Co.	28,440 76	31,520 25	41,813 15	\$101,774 16	4,421
Total.....	\$838,924 92	\$1,031,967 02	\$969,380 64	\$3,840,282 58	88,597

This total of the above number of tons of ores reduced by the eight companies represented in the tables, shows an average of \$33.72 per ton.

Hals & Norcross continues to keep out of the market, being still held in firm hands. We may nominally quote it at \$1,800. Deducting the dividend of \$100 per foot (\$40,000), payable on the 15th inst., we understand that a surplus of more than \$100,000 remains at the credit of the company. The September yield of bullion is largely in excess of either July or August. The average yield from ore reduced during the months of July, August and September, was a trifle over \$49 per ton.

Yellow Jacket fluctuated from \$740 to \$705 (ex-dividend), and at the close sold at \$715. During the month of September, 8,431 tons of ore were reduced. The average yield per ton for the past three months has been nearly \$36. After paying a dividend of \$50 per foot on the 15th inst., a balance of some \$120,000 will remain on hand, according to the statements of the company.

Savage sold at \$1,130 early in the week, advanced to \$1,175, then sold at \$1,135 (ex-dividend), and closed at \$1,195, b. 5. The ore now extracted from this mine averages, it is said, \$58 per ton for second-class and \$30 for third-class. During the week ending October 6th, 1,234 tons of ore were mined, and the profits during the same period are estimated at \$21,240. A dividend of \$75 per foot has been paid for the month of September. During last month, 3,500 tons of ore were reduced, giving an average of more than \$41 per ton.

Gould & Curry has changed bands during the past week at \$550@555, closing at \$590 asked. The new body of ore, said to be of good quality, is located about 500 feet southwest of the Bonner shaft, and 40 feet below the second level. It is the same spot passed through some time ago in sinking the incline from the second to the third level, below the lower tunnel.

Crown Point was sold at \$920 early in the week, and at the close we quote it at \$925, s. 30. During the week ending October 6th, 614 tons of ore were extracted from the mine. The lower level is now free from water. The east body, in the 400-foot station, it is said, discloses a lode of good ore some 6 feet in width. The average yield of ore for the month of September was \$38.48 per ton.

Imperial opened at \$84, declined to \$79, then sold at \$80, and closed yesterday at \$75. During the month of September, 3,384 tons of ore were reduced. Chollar-Potosi steadily receded from \$115 to \$112.50, then sold at \$107.50, and closed yesterday at \$108. The average yield of bullion for the quarter closing with September was a little more than \$23 per ton. Empire Mill & Mining Co. opened at \$70, then sold at \$80, buyer 10. During the months of July, August and September the receipts of hollion averaged about \$23 to the ton. A dividend of \$6 per share was paid on the 10th inst. It is said that the future prospects of this company are much more encouraging. Ophir opened at \$195, buyer 30, declined to \$165, seller 30, then sold at \$180@177, and closed at \$170.

Belcher changed hands during the week at \$92.50@77. Bullion declined from \$14 to \$8. Alpha sold at \$70 per foot. Confidence sold at \$56@50. Overman opened at \$17, and at the close sold for \$11. Daney commanded \$5.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$297,305.75.

Thursday, October 11.

2 shs Chollar-Potosi at 102½ per foot.
6 shs Chollar-Potosi at 105 per foot s 3.
6 shs Belcher at 85 per foot.
1 sh Belcher at 85 per foot s 3.
1 sh Yellow Jacket at 720 per foot.
1 sh Yellow Jacket at 717½ per foot.
1 sh Yellow Jacket at 715 per foot, s 10.
2 shs Yellow Jacket at 720 per foot, h 10.
5 shs Yellow Jacket at 715 per foot.
1 sh Yellow Jacket at 715 per foot s 3.
1 sh Yellow Jacket at 725 per foot h 30.
3 shs Yellow Jacket at 715 per foot, s 10.
1 sh Yellow Jacket at 712½ per foot, s 10.
1 sh Yellow Jacket at 712½ per foot s 3.
1 sh Yellow Jacket at 710 per foot.
1 sh Yellow Jacket at 714 per ft h 3.
1 shs Yellow Jacket at 715 per foot h 5.
2 shs Yellow Jacket at 712½ per foot.
1 sh Yellow Jacket at 710 per foot.
3 shs Yellow Jacket at 710 per ft s 3. #
1 sh Yellow Jacket at 707 per foot a 10.
3 shs Yellow Jacket at 710 per foot, h 3.
4 shs Crown Point at 910 per foot.
4 shs Crown Point at 925 per foot, s 30.
12 shs Onia at 170 per foot s 3.

Friday, October 12.

3 shs Yellow Jacket at 685 per foot.
 2 shs Yellow Jacket at 680 per foot.
 1 shs Yellow Jacket at 650 per foot.
 2 shs Yellow Jacket at 670 per foot.
 2 shs Yellow Jacket at 690 per ft a 3.
 16 shs Yellow Jacket at 700 per foot.
 1 shs Yellow Jacket at 700 per foot, \$30.
 1 shs Yellow Jacket at 700 per foot, \$30.
 1 sh Yellow Jacket at 697½ per foot.
 1 sh Yellow Jacket at 700 per foot 5 sh.
 1 shs Yellow Jacket at 6 0 per ft 30.
 1 shs Yellow Jacket at 6 0 per ft 30.
 1 shs Emplre M & Co at 70 per shh 3.
 6 shs Overman at 12 per share.
 5 shs Overman at 11½ per share.
 1 shs Overman at 11½ per share.
 \$10,000 Legal Tender Notes at 70½c h 6.
 \$5,000 Legal Tender Notes at 70c h 6.
 \$1,500 Legal Tender Notes at 70½c.
 1 shs Chollar-Potosi at 109 per share.
 1 shs Chollar-Potosi at 103 at 108 per share.
 20 shs Confidence at 60 per share, \$30.
 4 shs Confidence at 50 per sh, \$3.
 4 shs Confidence at 50 per share \$3.
 5 shs Belcher at 50 per share.
 6 shs Belcher at 50 per share, \$30.

AFTERNOON SESSION.

1 sh Salvage at 1195 per foot, h 30.
 5 sh Yellow Jacket at 703/722½ per foot.
 11 sh Yellow Jacket at 707/703 per ft s 3.
 5 sh Yellow Jacket at 705½ per foot, s 3.
 1 sh Yellow Jacket at 705½ per foot, s 3.
 4 sh Yellow Jacket at 703/710 per foot.
 2 sh Yellow Jacket at 715 per foot.
 1 sh Leicher at 71½ per foot.
 16 sh Imperial at 75 per share.
 20 sh Confidence at 50 per share.
 11 sh Confidence at 50 per share, s 15.
 10 sh Confidence at 50 per share, s 15.
 6 sh Confidence at 50½ per share.
 2 sh Overman at 12 per share.
 10 sh Overman at 11½ per share h 2.
 10 sh Overman at 11½ per foot b 15.
 15 sh Overman at 11 per share, h 18.
 15 sh Overman at 10½ per foot.
 10 sh Overman at 10½ per share.
 \$6.00 Legal Tender Notes at 70½c.

Amount of sales,..... \$ 77,933 75

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the *Miner* of Oct. 6th: The George Washington ledge widens and becomes more distinctly defined, as they advance. The ore now being taken out closely resembles that from the Mexican mine, Virginia City. The contractor for hauling the 10,000 tons of Morning Star ore to the mill has been notified to commence delivering immediately, and the first load goes to the Davidson mill to day. The Schenectady Silver Mining Company during the two weeks they have been at work have made over forty feet of tunnel, $5\frac{1}{2}$ by $6\frac{1}{2}$, penetrating the celebrated Tarshish ground on Monitor Mountain.

Amador County—

From the *Ledger* of 6th Oct.: Pangh has put a splendid new engine in the Rocky Falls mill, and is now engaged in working up a lot of (300 tons) rock that has accumulated since the mill went into his hands. The prospects continue as fair as ever. The Anaconda give no sign of "weakening." A few days since, the boys pounded out 150 pounds of rock that paid a dollar to the pound. The Golden Eagle, Vaughn, Perry & Co., is still turning out splendid ore. The Mahoney, at Sutter, is yielding ore rich as ever. Late improvements have been completed. The Kenedy Company purpose erecting a large steam mill. Tanner, Serine and Payne, after a summer's campaign in search of the south extension of the Eureka, at Sutter, think they have at last found it. We still hear most encouraging reports from the Newton copper mine. The new vein of ore found some weeks ago, still continues as rich as at first.

Butte County—

From the *Record*: Mr. Armstrong, of the Buffalo Ranch, has shown us some very fine quartz specimens, taken from a ledge about four miles from the ranch, and near the Unconditional Union Quartz Company's claim. The free gold exudes from the white quartz in globules, as if the ledge were perspiring the precious metal. We understand that Mr. Armstrong intends taking measures to develop the extent and richness of the ledge, with a view to working it.

Calaveras County—

A letter from Angels to the Marysville *Appeal* says: The mother lead of the district averages ten feet in thickness. In the Sticks' mine, at a depth of one hundred feet, it is twenty-five feet wide; in the Hill mine it is about the same width; in the Winter's mine it is about the same. A fine 30-stamp mill is now in course of erection on the Hill mine. On the Sticks' mine is a 10-stamp mill, and on three other mines, three other mills, all in operation. There is but very little difference between these mines and the great Hayward, in Amador, which is said to be upon the same lead. Angels is emerging from the obscurity to which bad management consigned her.

El Dorado County—

From the *Placerville Record*, Oct. 6th: The mining prospects about Georgetown are generally good. The Woodside Company are down on their ledge 100 feet, and are taking out rock of the richest character. The Collins extension company have excellent prospects, and are vigorously pushing on the work of prospecting. The Neptune Company, at Volcanoville, have a ledge about twenty inches wide, and have crushed the rock from the top down to a depth of ten feet. The yield from the rock has been \$100 per ton, and this without selecting it at all, but taking it as it comes.

Fresno County—

From the *Mariposa Gazette*, Oct. 6th: Capital is gradually working its way into Fresno county, and the innumerable partially developed quartz veins in that section are likely to be brought to the notice of moneyed men. The country about the Fresno is comparatively new, and very little quartz mining has been carried on. Some very good discoveries have been made lately by parties from San Francisco, which it is hoped will give an impetus to quartz operations in that part of the country.

Kern County—

From the *Havilah Courier* of October 6th: Lovely Rogers, Hamp, Williams & Co., have discovered an exceedingly rich quartz lode on the Keysville side of Kern River. We have been shown some of the rock, which is thickly interspersed with gold, visible to the eye. The rock also contains a considerable percentage of silver. The ledge is about three feet wide, and is seven miles below Keysville. The Alpine Gold Mining company, with a capital stock of \$10,000, for the purpose of working fifty-three quartz lodes in the Green Mountain district (formerly Greenhorn), was incorporated September 29th. Trustees: Wm. F. White, Geo. S. Wright, and B. W. Mudge.

Nevada County—

From the *Gazette* of October 2d: The Eureka mine cleaned up, for the last twelve days' run, between twenty-five and twenty-six thousand dollars. The cement mining interest of this county is located principally in Little York township. There are twenty-one cement mills in the county, having an aggregate of 173 stamps, of which sixteen mills, with 134 stamps, are in Little York. There is one cement mill in Nevada township, two in Washington, one in Bridgeport, and one in Grass Valley.

Oct. 5th: J. E. Squire, superintendent of the U. S. Grant mine, arrived in town on Wednesday, bringing a bar of gold worth \$2,758, the yield of fifty-five tons of rock from the mine. This is the first run on ore from the Grant mine since the company purchased the mill of Parsons & Co. The company will immediately increase the capacity of their mill by taking out the 300-pound stamp and putting in stamps weighing 700 pounds.

Oct. 6th: The quartz mill erected by R. C. Black on the Young ledge, in Eureka township, was started up last Thursday and found to work admirably. The mill has ten stamps, is run by a 35-horse power engine, and is a substantial structure. It is called the Glenbrook mill. The incline on the Monadnock ledge is now down about eighty feet. The rock looks well, and the ledge is of fair size. A lot of about ninety tons of rock from the Willow Valley company's ledge was crushed at the Oriental mill last week, and yielded twenty-five dollars a ton. This company now employ thirty hands, and the mine has yielded between three and four hundred tons of rock since the hoisting works were completed. We learn that quartz prospecting is now going on very extensively on both sides of Bear River, near the Colfax road. The celebrated Bankermine has been traced south as far as Saunders' ranch, where works are being erected to reduce the ore. This is ten miles south of the claim of Harpending, and parties are endeavoring to trace the ledge north into Nevada county.

From the *National*: The quartz mines in the vicinity of Newtown are beginning to attract attention, and the district promises to become one of the best in the county. Several San Francisco capitalists have become interested in the district, who are spending their money liberally, and machinery will probably be placed on some of the mines in a short time.

We were shown, to-day, a piece of rock weighing thirty-four and a half pounds, taken from the Mary Etta ledge, which was literally permeated with gold, and we are informed that this is a fair sample of the whole ledge, so far as prospected, which is from three to six feet wide. The ledge was located about six weeks since, and the shaft is now down only some thirty-five feet. Some seventy-five tons of rock have been taken out, in every particle of which gold is plainly visible. The ledge is owned by Colbert, Spring & Co., and is located on Diamond Creek, four miles above Omega, and about twenty-eight miles due east from Grass Valley.

EXCELSIOR.—From the *Meadow Lake Sun*: The Mohawk and Montreal company have struck their ledge on the lower level, and find it to be, as far as penetrated, eighteen inches wide and of excellent quality. The Idaho and Imperial company have a fine, large shaft, six by eight feet, and twenty-three feet deep, on their ledge. The rock, some forty or fifty tons of which have been selected for crushing, is not inferior to the Excelsior, which it closely resembles. We learn from Mr. J. Hill that a fine vein of copper has been struck at a point on the river, not far from Old Man Mountain.

The new Excelsior mill started up on the 29th of September. Everything worked well, with a few trifling exceptions, which can be easily remedied. The Webster company, on the Danville ledge, has sunk a shaft about fourteen feet deep on the ledge, and is taking out gray sulphuretted ore, which would pay, judging by assays, immensely rich returns. The stratum composed of this character of ore is between four and five feet in width. The Camp company, Shooting Star ledge, commenced work on the 13th of last July. They now have a shaft, twelve by eight feet, down thirty-eight feet. At this depth the ledge is well defined, and about four feet wide. Assays from the rock show—gold, \$623.24; silver, \$46.10; and fifteen per cent. copper. Five tons of rock and dust, taken from the surface of the Moscow company's claim, paid in free gold \$82. A new claim has been discovered and located in the last week, situated on a ledge between the Pacific and Excelsior. We have seen specimens from the claim studded with gold. The company takes the name of the White Cloud. C. C. Whitehead has made a contract with the Empire company to sink a shaft fifty feet before February 1st, for no other compensation than the ore taken out. He has the privilege of twenty-five feet in addition to this.

Editorials in same paper speak hopefully and even exultingly. They insist that the district has something to show for its summer's work. We quote: "We have built up a sub-

stantial and handsome town, and paid for it. We have opened three excellent roads to connect with the great thoroughfares of travel; we have constructed six good mills, and now have a power in the district of not less than fifty-eight stamps. Finally, we have developed a large number of mines, whose richness is admitted by every one that has visited and inspected the district. Business must revive, and we have the certainty of a prosperous future."

The same paper furnishes a table showing the amount of bullion shipped from the mines of that district during the month of September, viz.:

Western Co.	\$ 176 37
Kuickerbocker Co.	34 10
Mohawk and Montreal Co.	108 85
Enterprise Co. and Montreal Co.	1,250 00
Mohawk and Montreal Co.	2,250 00
Alhambra Co.	250 00
Moscow Co.	82 00
Total	\$4,121 32

Placer County—

From the *Stars and Stripes*, Oct. 3d: W. J. Taylor is sinking a shaft on the Davenport, between two swells of the ledge. At the depth of twenty feet he finds the vein nine inches thick, and the quartz of an excellent quality. Four hundred feet of this ledge were sold recently for \$2,000. Work is progressing on the Poland ledge, and the appearance of the rock is very promising. We understand that parties in Sacramento have agreed to erect a mill on this ledge whenever it is sufficiently developed to warrant the outlay.

Oct. 10th: The Mattheson claim, near Bald Hill, has acquired a wide-spread reputation for richness, and is said to present all the indications of a first-class mine. While out prospecting for the extension of the Mattheson lead, Mr. Wm. Bissett and others struck a small but rich ledge which they have named the Woodstock. Messrs. Millette & Havey are running their mill on rock from their ledge in Baltimore Ravine, and though their machinery is out of the best, they get paying results.

Plumas County—

From the *National* Sept. 29th: "Mr. Wm. Jacks, of Gopher Hill, has cleaned up and received \$10 per day to the hand after paying all expenses. Squire Jacks, \$8 per day. Reynolds has done well and sold out. Esq. Metcalf is still drifting—has no water to clean up, but expects to do well. Simpson, Acres & Co. on the creek, near Boston, have a number one claim, but with their present facilities can make but little wages. If well rigged they could make from one ounce to two per day. Scotty, at the mouth of Snake Lake creek, is doing very well. Ned. Evans is after it as usual in the creek above New Boston. John Wilson & Co. at Silver creek is doing well, and so is Sam Carr, at Meadow Valley. The boys in Eagle gulch are slack of water, but still hold on to the old ground. Rich Bar, Twelve Mile Bar, Ding Bat Flat and Rich Gulch, are yet very fairly represented in the gold market. Rush creek still turns out, with the labor done on it, a nice amount of gold dust. The Bull-Frog diggings are turning out well. Geise & Bennett are making their \$10 per day. Soda Bar is not behind in her endeavor to raise the color if hard labor will do it. In fact, all of the "played out" diggings are in demand by the bone and sinew of our land, who are just returning from some of the bug-a-hoo excitements."

From the *Union* of same date: Morris & Co.'s river claim, on the North Fork, is paying an ounce per day to the hand regularly, and on Saturday last the company took out forty ounces for that day's work. J. S. Carter has sold his interest in the Plumas ledge in Indian Valley, to one of the other owners in the claim, for \$9,000. The ledge is being worked and is paying well. The New York Company at Sawpit, are taking out some rich pay dirt. The American Company, on the Dixon side of Washington Hill, struck pay grit last spring, and are still taking out good looking dirt. The Buckeye Company, on the same side, are still pegging away at their tunnel.

Sacramento County—

From the *Folsom Telegraph*, Oct. 6th: A cement claim on Maine Flat, immediately opposite Folsom, is being worked by Fischer & Co. The cement is worked with an arastra, and is paying well; pieces of the cement can be seen thickly studded with gold. We understand the company intend shortly to erect a mill.

Shasta County—

From the *Courier* of Oct. 6th: Wm. Logan, James Burgoon and Charles Williams are now working the richest claim ever found in the Pittsburg district. It is in Squaw Creek above Crocker's mill, and the ground on the bed rock pays from \$1 to \$2.50 to the pan. Considerable activity is being manifested by the miners in the vicinity of Churntown and Buckeye, in making preparations for mining the coming winter. The width of the Potosi at the present depth of ninety feet, is two feet. The rock improves in quality. It is reported that a San Francisco company have

purchased the original Chicago mine, on the South Fork, for \$50,000. The workmen on the Chicago lode are taking out some very rich gold and silver rock. Some estimate its value at \$600 to the ton. We understand that the owners of the Union lode have concluded not to do any more work on it at present, and offer their mill for sale at a low figure. The Mammoth Company made a short run last week, and cleaned up four hundred dollars. The workmen are still hammering away in the William & Kellinger claim, and are running a branch tunnel in the direction of the Baxter claim.

Sierra County—

From the *Messenger* of Oct. 6th: The Keystone cleaned up about ten days since, after a run of five weeks, and took out the sum of \$10,500.

Letter from St. Mary's District says: After a year's work, the General Grant has "struck the ledge" at a depth of seventy-five feet in the shaft, and a drift of about one hundred and fifty feet. The pay streak is about three to four feet wide where it was first struck, and is widening out. Three assays have been made, resulting as follows: 1st, the casing, \$43 17; 2d, Grant ore, \$54 63; 3d, the best rock, \$84 51; silver ore largely predominating. There is considerable excitement here; some ten or fifteen locations have been made during the past two days. Our town site has been laid out, and we are expecting business in earnest.

A letter from Howland Flat says: The Pittsburg Co. have lately put in a new water wheel. The claim is paying, as of old, very well. The Mammoth have not as yet commenced taking out pay. The Hawkeye Co. are jogging along, making something more than wages and expenses. The Union, Down East, Sbirly, Lone Star, Sugar Loaf, etc., never fail when Saturday night comes round to deposit their usual amount of dust. The Mountaineer was closed up by the Sheriff a few days ago, but will soon be at work again.

Siskiyou County—

From the *Yreka Union* of Oct. 6th: The quartz mining business in this county has received a new impetus. A number of companies have renewed operations, and parties from San Francisco are here now making arrangements for the immediate erection of a large mill on Humbug. The Steam Engine Company has resumed work, and we understand they are getting fair pay.

Tulare County—

From the *Delta*, Oct. 3d: The mines in the Upper Tulare District promise to be very rich in gold, silver and copper. There are old miners engaged there who are not easily misled. We have been shown by Professor Greeley, who has just returned from the mountains, a splendid specimen of copper ore, given him by an Indian, and taken from the headwaters of King's river. The ore is sprinkled with silver.

Tuolumne County—

The *Columbia Citizen* of the 6th inst. says: Capitalists are looking around in the vicinity with a view of investing in quartz mining. Gen. Rosecrans, in connection with A. Hayward and O. L. Chamberlain, are about to commence with a capital of \$500,000. J. W. Hussey is now in Columbia, with instructions from a New York company to purchase extensively in quartz.

Yuba County—

From the *Marysville Appeal*, October 4th: About 1,500 shares in Templar Mining Company No. 2, located at Indiana Ranch, were sold yesterday afternoon for assessment of \$1 and expenses of sale. The principal purchasers were W. L. Lawrence and S. G. Allen. Templar No. 2 has a first-class mill on it, and the ledge is being prospected very economically. The steam engine used at Brown's Valley on the Dan Webster claim, has been sold to the "Marysville-Nevada Mining Company," and will be shipped for Nevada to-morrow.

NEVADA:

Washoe—

From the *Virginia Union*: The streak of rich ore in the Gould & Curry has widened to two feet. It is of a soft, decomposed nature, rich in silver sulphurets, and will yield \$80 or more to the ton; being more like gravel than rock, it is mined out with the greatest facility, and is sacked up for milling. This rich ore is found about 500 feet southwest of the Bonner shaft, and some 500 feet below the level of D street.

The expense of running the Gould & Curry mill for the month of August was \$36,800; the number of tons of ore crushed was 3,135, at a cost of \$11.73 per ton; the rock assayed \$53.40 per ton; the amount of bullion returned was valued at \$102,506.18. The Savage Mining Company has declared a dividend of \$75 a foot, and carried over quite a surplus towards next month's dividend. The Yellow Jacket declared a dividend of \$50 per foot.

From the *Gold Hill News* of October 1st: There was shipped by Wells, Fargo & Co., from their Gold Hill office, during the month

of August, \$700,940.43. About a hundred thousand dollars of the product of the Gold Hill mines, besides the above, was shipped from Virginia City.

Reese River.

From the *Reveille*: In Northumberland district, forty distinct ledges have been discovered and located, which are generally of large size, and better defined than those of any other district in the region. The Northumberland ledge crops on the surface over 1,100 feet, and in several excavations the vein is twelve feet thick, nine feet of which are well loaded with mineral.

Same of Oct. 1st: Col. Bael brought in from his mill in Philadelphia district on Saturday last, 4,627 ounces of crude bullion, the result of one week's crushing of ore from the High Bridge ledge.

Oct. 2d: Three tons of ore from the Danville district were reduced last week at the Keystone mill, yielding at the rate of \$153 per ton; the bullion was 942 fine. The ore was obtained from the Vanderbilt and Hibernia ledges. In Pulmetto district, quartz has been struck about two miles west of the original locations. Five ledges were located, the two principal of which are called the Double Eagle and the Empire, the former being two and a half feet wide and the latter one foot. The reddish quartz is fairly studded with free gold.

Oct. 3d: A small lot of ore from the Green and Odeur location in the Philadelphia district, was recently brought in and reduced at the Keystone mill, yielding at the rate of \$300 per ton. A 30-pound sample of the Silver Champion ore, Philadelphia district, was brought into town a few days since. An assay was made of a piece broken transversely off the whole mass, which gave the enormous yield of \$8,409 per ton. The owners are now engaged in extracting ore, for the purpose of having it transported to the Keystone mill for reduction, and they are confident of being able to obtain ore in quantities that will work at the mill fully \$600 per ton. The claim of the Silver Champion comprises 1,400 feet, and is owned by J. R. Murphy and Robert Morrill.

Oct. 4th: In the Revelle district, the Antarctic ledge is 56 feet thick; the August, 73; the Crescent, 106; the Mediterranean, 60; the Atlantic, 40; and the Atlantic, 45. Assay of the Atlantic ore gave \$1,658.74 per ton; of the Mediterranean, \$1,361.75.

Editorial of same date reiterates former statements in regard to the extraordinary richness of the new districts. It says: As to proof of these assertions, we only ask the closest examination. We say we offer to the capitalists of the world the finest opportunities for profitable investment of any country or business, and we challenge comparison. The capitalists of San Francisco have treated this section with an indifference which eventually they will regret.

Oct. 5th: Two assays of very choice and carefully selected specimens of ore containing horn and native silver from Revelle district, were made this morning. The specimen of native silver yielded \$27,204.83 of silver per ton, while that of horn silver yielded only \$22,180.93. Nine tons of ore from the Taylor & Passmore claim from the Nevada Giant ledge, Cortez district, have been brought to the Keystone mill for reduction.

The Nye County *News* of Sept. 29th says the Murphy mill, at Twin River, will be ready in a few days to commence crushing. Business in that section was brisk.

Esmeralda.

From the *Aurora Union* of October 6th: The Cornucopia mine at Partzwick is looking remarkably well. The furnace has been rebuilt, and is working finely. Winter's mill has been thoroughly repaired, and was to be started this morning. They have quite a supply of ore on hand, and intend keeping a sufficient force working the mine to keep the mill running constantly.

Pahranaagat.

The Hardyville correspondent of the *Alta* says: The steamer Nina Tilden leaves here temporarily a splendid 40-horse power engine, and 10-stamp mill, all complete, destined for the Pahranaagat mines via Calville. Gentlemen continually arrive from Pahranaagat, reporting most unfavorably of the mines.

IDAHO.

From the *World* of Sept. 15th:—The California Tunneling and Mining Company has been incorporated in this place for the purpose of running a tunnel from Moore's Creek into East Hill. Stock has been issued and is finding a ready market. There is great confidence among the people here that the tunnels now perforating each side of the hill will strike rich and valuable diggings. A letter from the Wind River expedition was *en route*, says:—I saw a man just in from the head of Green river. He reports diggings that will pay \$20 to \$30 per day to the man. He describes the country in and around the head of Snake and Green rivers as a wash or diluvial mountain and plains.

From the *Times*: Several claims on Monte's Flat continue to yield from \$5,000 to \$7,000 per week. Among them are claims of Redmond & Co., Clifton & Co., the French Co., McNorthcutt & Co., etc. The East Hill tunnel is now 160 feet in length. The dirt taken out yesterday prospected five cents to the shovel.

Same says that there is little doing at mining in Alturas County. The Idaho Company are taking out ore, and occasionally set their mill in motion. Work is progressing on the Ada Elmore ledge; a quantity of ore is stacked up ready for crushing, which will yield from \$60 to \$100 to the ton.

From the *Avalanche* of 29th:—A ton of ore from the Reuter & Johnson vein, crushed in a horse arastra, gave \$48.60 in gold—did not save the silver, but suppose it contained about \$12 per ton. The Reuter & Johnson has been proven to be a true vein for nearly two thousand feet, and will pay by mill process an average of not less than \$60 per ton. The New York and Owyhee mill has been recently enlarged by the addition of twelve or fourteen feet on the north side and its full length. This was done to make room for three more large settlers, a pan for cleaning amalgam, and a room for chemicals and assaying. The Lincoln Company have taken an extension of time to prospect the Allison Ledge. Joseph Gafford, of Keokuk, Iowa, is associated with Judge Lowe in the mining enterprise alluded to in our last week's issue. They have purchased the Forrest ledge. The Vulcan, or first north extension of the Silver Cord ledge, is yielding some fine looking ore. The main shaft is down forty-five feet, and shows an average width of four feet. The casings are smooth and regular. The Silver Cord is producing from twenty to thirty tons each day. The Poorman mine is now supplying thirty-five stamps with ore—ten at the N. Y. & O., ten at the N. Y. & O. F., ten at the Ainsworth, and five at the Webfoot Mill. On the Varney & Carriaco a tunnel is being run from the bottom of a shaft seventy feet deep. We learn that it is looking well—native metal being found.

MONTANA.

From the *Post* of Sept. 22d: Returns from Highland gulch continue favorable. All the ground has been taken up, and claims are valued from \$1,000 to \$12,000. There is no chance for anybody who is "dead broke." The highest run of which we have heard has been \$1,100 in ten hours. Snow to the depth of one inch fell on the night of 18th Sept. in Virginia City. In Summit district, there are 450 men engaged in mining. B. R. Martin has gone East with 600 pounds of rich rock. He expects to return with a mill in the spring. Prickly Pear City (formerly known as Montana City) presents a more animated appearance than it did six months ago, owing to the resumption of bar mining. The mines are at present managed with fair results, prospecting from one to four cents to the pan. The *modus operandi* adopted is ground-sluicing, the creek (Prickly Pear) affording plenty of water and ample fall. At Jefferson City, a New York company are at work on the Gregory ledge, and probably will bring a mill to their ledge next spring.

Letter from Deer Lodge, Sept. 3d, says: News from Elk and Bear gulches is uninteresting. The former is perfectly played out, and the latter is rapidly playing out. Prospectors returning from Salmon river pronounce it as perfect a "bilk" as Elk creek. Highland is just now the center of attraction for hungry prospectors.

Letter from Pipestone: On the Clipper a tunnel has been run eighty-five feet, following the vein. All the ore taken from this tunnel has been crushed, and a large pile is waiting to be taken to the mill, from a vertical shaft, now being sunk 200 feet up the hill from the mouth of the tunnel. The Emigrant, with a tunnel 125 feet, on an incline, and a two and a half feet crevice, is not being worked now, but has yielded \$24 per ton. Some very fine ore is now being taken from the Bully Boy.

Letter from Helena: Thornley's mill is doing a paying business. The large new quartz mill of the East Bannack Company has been working rock which prospects \$2,000 per ton. The mill of the Bullion Company will soon be in running trim. Jim Whitlatch is about having a large 24-stamp mill put up on his property in Oro Fino, close by the side of Prof. Hodges' new mill.

The following are working tests of quartz in Hot Spring district: Boaz lode, one thousand pounds of unassorted ore yielded twenty-seven ounces of gold; Pony lode, two tons of rock yielded one hundred and seventy dollars; Galena lode, twenty-five tons of quartz produced twelve hundred dollars; Prim Rose lode, five tons of rock yielded four hundred dollars; Maiden lode, five tons of quartz produced three hundred dollars.

The *Republican* of the 18th, says: Wessels & Wilkes' 6-stamp mill, in New York gulch, yesterday, cleaned up, from thirteen and a

half tons of rock, \$1,326, in four days' run. A private letter informs us that "a big thing has been struck in the Yellowstone country, and the honest ones are making a terrific break in that direction."

COLORADO.

From the *Denver News* of Sept. 26th: A load of quartz from the "Hattie Jane" lode, near Red Mountain, was crushed in Black Hawk recently, and yielded at the rate of \$1,600 per cord. This is the largest yield, by stamps, from any surface quartz ever treated in this Territory. A correspondent writes us from Montgomery, that prospects are brighter for the mines in that region than they have been for long years past. The Pioneer has very encouraging prospects. They are driving two tunnels on the Parsonage lode. A test of the ore will soon be made, as the company's mill is fast approaching completion. Charley Donnelly has discovered a valuable lode of argentiferous galena. He has sunk a shaft only some five or six feet, and has a completely defined crevice of five and a half feet solid ore. The lode, he calls the Bunker Hill.

Letter from Nevada City (Colorado) says: The different mining companies are working well, and those best informed appear to be cheerful and hopeful.

Boulder City correspondence: In Ward district, the Ni-Wot Company have twenty-five stamps at work, on an inferior quality of ore, which gives a weekly yield of \$2,000 in gold. When some other improvements are made, now in progress, and their other twenty-five stamps are put to work, their weekly yield will be from \$6,000 to \$10,000 in gold. At a depth of forty feet on the Columbian lode, they have a crevice of twelve feet in width.

From the *Journal* of Sept. 18th: Central district has been reorganized. It now extends from Left Hand to St. Vrain's creek, north and south, and from Gold Lake district on the west to the valley. A specimen of the ore recently shown us assayed \$300 a ton; the value being about equal in gold, silver and copper. One shaft has been sunk twenty feet and there are chunks of the purest ore exposed that weigh a ton or more. Hornblende and fluor spar are found in some of the veins, both indications of silver. These mines are situated in a beautiful park, formed by James creek, which has been named "Elysian Park." Quite an excitement exists. Parties are talking of building furnaces, prospectors are surging in that direction, people in the valley are leaving their farms to secure a portion of the newly-discovered wealth.

In Griffith district, the Washington Company owns 5,000 feet of veins. They are now working Burrell and Panama, and are now erecting a reverberatory furnace of fifteen tons capacity per day. The Mt. Alpine Company has recently been reorganized under the name of "What Cheer."

In Argentine district, Mr. Herrick of the Georgetown Company, has put in a dam at Elizabethtown, cut a head race eighty feet through solid rock, and is going to put up smelting works. This company intend to confine their operations strictly to smelting. They have one of the best water powers in Colorado.

Mr. Wright is mining on the Elijah Hise, upon which the Sherman Company own 700 feet. Shaft eighteen feet deep, sixteen inches of ore in the bottom. Messrs. Hermann and Hill selected an average of this crevice and it assayed at the rate of \$1,339.20 a ton. The Elijah Hise is on Sherman Mountain, one and a half miles up the right fork. Mr. Watson is building a reverberatory furnace and small cupel at Elizabethtown, capacity three tons a day, for the purpose of testing the Baker lode, on Kelso Mountain, at the extreme head of the right fork. Mr. Watson expects to have seven feet of \$800 ore when he gets his crevice. That is the average assay of the croppings. A wagon road has been built to the H. W. Beecher, a strong galena vein, high up on Republican Mountain, and it is expected to run the furnace steadily. Assays of the best ore vary from \$100 to \$200 a ton. The lode has been stripped 200 or 300 feet, and a shaft has been sunk twenty or thirty. Mr. Stowell, of the Argentine Company, is erecting works for the purpose of experimenting with the lead process.

In Empire district, most of the companies are awaiting the result of Leeper's experiment, and will resume operations if it should be encouraging. J. S. Jones is building a wagon road from Empire to Middle Park. Mr. Pine is working the Rosarico, running the ore through the Knickerbocker mill.

Some changes have taken place in the works at Lyonsville since we last noticed them. Since the opening of the present season, freight have receded so that it is possible to transport matt to New York by the quantity for \$100 a ton, or to Swansea in Wales for \$200. An arrangement has been made with Mr. B. Hermann, or through him with Vivian & Sons to purchase the matt made at these works, or to separate the copper and bullion for Lyon & Co.

The reverberatory furnaces at the works are precisely like those at Swansea. Their united capacity is estimated at fifteen tons a day.

The Muckenzie Blower has arrived and works well. A pair of new Cornish rollers and a 50-horse engine are *en route*.

ARIZONA.

The *Alta*'s correspondent at Hardyville writes Sept. 28th: Messrs. Lightner & Knowles, the representatives of the firm of Martin Greenman & Co. of New York and San Francisco, are working the Mineral Hill mine, three miles distant from the Planet. It has been heretofore worked upon the Mexican plan. A tunnel is being run to strike the ledge at a lower level. The old works will then be abandoned. A shaft on the Empire, run sixty feet in depth, shows a two-foot vein of 15 to 18 per cent. ore, which will be smelted here, and for that purpose they have put up two Cupola furnaces that will produce four tons of metal from 15 per cent. ore, every twenty-four hours. These furnaces are the same as those now in use in Fresno and Mariposa counties, California, with such improvements as experience has suggested. For running these furnaces they have a McKenzie blower, driven by a 30-horse power engine. The machinery is arranged for the adding of a quartz mill for working the ore of a mine situated at Empire Flat, nine miles below here and close to the river. This ore is rich in gold, twenty-seven tons of it, worked in Europe, yielding \$246 per ton. Seventy-five tons more have been shipped, from which return has not yet been received. The ore carries about twenty per cent. copper. A small sized furnace is in operation on the Eliza mine, owned by the Central Company. It is said to be a complete success, and as evidence of the fact, I saw some of the matts of copper they have produced, that weigh from 150 to 200 pounds each. They claim that the institution pay to the tune of \$200 per day, net. Lightner & Knowles shipped, one month ago, 75 tons of 30 per cent. ore, and have now ready for shipment 160 tons. Their shipments amount to about 100 tons monthly. The ores are from 30 to 60 per cent. Ores less than 30 per cent. will be reduced here. A 10-stamp mill for Col. Woolsey, of Prescott, is being loaded up for transportation to that place. The remainder of the machinery for the Moss mine has arrived, and that mill will be at work ere long. Mining is being vigorously prosecuted. Rich ores have lately been struck in the Antietam lode in the Sacramento district.

ANOTHER NITRO-GLYCERINE EXPLOSION.

About half past six o'clock, on Saturday evening last, the residents of the southern portion of the city were suddenly startled by a very loud explosion, which was soon found to have proceeded from the bursting of a lamp on board a small vessel at anchor in the Bay, near the junction of Third street bridge with Fourth street, the particulars of which have been fully given in the daily papers. The supposition of the *Alta*, that the can had been emptied of its contents, according to the order of the captain, and subsequently filled with coal oil, and that the lamp was filled with a portion of the nitro-glycerine which found its way from the bottom and sides of the can to the top of the oil, is untenable, from the fact that nitro-glycerine will not float upon coal oil. Neither was it necessary that the lamp should be allowed to drop, in order that the explosion might occur, as suggested by the *Call*, from the fact that capillary attraction would soon draw up a portion of the oil along the wick, which on being heated by the flame, or from any other cause would explode, without percussion, the moment it reached 360° of temperature. There can be but little doubt that the lamp was filled with nitro-glycerine. The violence of the explosion and the loudness of the detonation were so great as to be accounted for in no other way. We were upwards of a quarter of a mile distant at the time, and in a closed room; yet the first thought suggested to our mind, from the similarity of the report to that of the one on the premises of Wells, Fargo & Co., was that it proceeded from nitro-glycerine. The investigations of the Coroner have fully established the fact that such was the case.

THE FALLS OF ST. ANTHONY are perceptibly changing by the breaking away of the limestone edge, and recede at the rate of about ten feet a year. The owners of the water-power have decided to check this process by the erection of inclined aprons, which will break the force of the water and conduct it away from the quicksands which in many places underlie the rock.

Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities and districts of that State, August 25, 1866.

Mr. O. P. Truesdell will act as our Corresponding Agent and Solicitor in the interior of this State, from this date August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.

SAN FRANCISCO, Jan 11th, 1866.

San Francisco:

Saturday Morning, Oct. 13, 1866.

NOTICES TO CORRESPONDENTS.

OWING to the large amount of correspondence received relating to interesting points connected with Mining, Metallurgy, Mechanics, etc., we are compelled, for want of time and space, to reply briefly in the following form to a portion of such queries as are of general interest.

B. N. WASHOE.—Sanidin is the name given by several mineralogists to transparent or glassy feldspar, such as is found in trachytic and other volcanic rocks. It is called "Sanidin" from the Greek term *sanis*, a hoard, the crystals of the mineral being tabular, or hoard form. The name *ice spar* is sometimes given to a very similar variety, found in Vesuvian lavas. The term also includes pellucid varieties of other species of feldspar. From the fact that *sanidin* frequently accompanies rich mineral veins, its presence, as at the Comstock lead, is usually considered a favorable indication. Barns Richtovin, in his treatise on the Comstock, draws very favorable conclusions from the presence there of this mineral.

ONE INTERESTED, DEL NORTE.—We are afraid that in the case of low grade ores, sulphureted copper, say of less than 12 or 15 per cent., it will be impossible, in the existing state of the roads and the want of other conveniences, to so far reduce them, or form what is called a *regulus*, on such an economical cost as will yield a profit to the miner, especially from such a distant place as your locality. Rich oxyds, carbonates, or the two named, even intermixed with sulphurets, when containing from 30 to 50 per cent. of metallic copper, can be very profitably reduced to coarse metal, containing about 96 per cent. of copper, where, as in your case, wood is plentiful. Under certain conditions, copper ores can be more economically concentrated by the moist than by the dry method of reduction.

S. B. TUOLUMNE COUNTY.—Reports vary as to the practical utility, by which we mean, the amount of gain over and above the additional cost incurred, by the employment of sodium amalgam. Everything of importance which has appeared relating to this subject, has been published in this journal; some articles, as the experimental trials by Prof. B. Silliman, and the claims set forth by the inventor, Mr. Wurtz, were of considerable length, and to which we must refer our correspondent for fuller details. An interesting article on this subject appeared in our last issue, which you must have received subsequent to the date of your note.

G. J. AUBURN, AND H. D. K., IOWA HILL. THE SYPHON.—We have been favored by a communication from each of the above gentlemen; as, however, the larger part of their respective letters dwell upon points which have already been noticed by other correspondents, we refrain from publishing them in full. "G. J." employs and recommends fixing an air-chamber over the highest flexure, above which he places a stop-cock, with a hand-pump over all. "H. D. K." states that he has a syphon which runs for six to eight months. To such of our readers as may have followed, and still feel interested in the discussion, we wish to point out what may be easily gathered by carefully studying the various letters which we have recently published on this subject, that two causes, chiefly, prejudicially influence the working of syphons—one by flexures causing air to accumulate at the culmination of their course; the other the gradual seepage of air to the upper portions of the syphon, when from the length of piping used, or great amount of fall, an inadequate flow of water enters the short leg of the syphon, to supply the capacity for outflow of the longer leg. The former evil could probably be remedied, or greatly lessened, by erecting a simple, cheap kind of stage, on which to lay the piping. In this way curvatures could, in almost all instances, be avoided. The second evil might probably be mitigated, if not entirely remedied, by having a stop-cock at the point of exit, and carefully regulating the outflow at something below the capacity of the shorter leg to supply.

STEAM BOILER EXPLOSIONS.

The latter clause of the verdict in the inquest on the late explosion of the steamer Julia's steam drum is most significant in its import, and points out the true direction in which we should look for a greater degree of immunity from injury by steam boiler explosions. The jury say:

"From the evidence the jury also find that the construction and inspection of said drum fully complied with the requirements of existing laws; they also find no cause of blame, except in the high standard of strength allowed by law for iron used in the construction of steam drums and boilers."

This is the first time in our recollection a jury has brought in an indictment, and a righteous one, too, against the government, for its culpable action in legalizing a most dangerous practice—that of allowing, by law of Congress, the owners of steamboats to carry a pressure of steam equivalent to 115 lbs. to the square inch of $\frac{1}{4}$ -inch iron. That the pressure thus "allowed by law for iron used in the construction of steam drums and boilers" is dangerous, and highly so—even when the best attainable iron is used, and when that iron is absolutely free from any accidental flaw—is perfectly demonstrable, and well known to every engineer who thoroughly understands his profession. Hence, we say, that the verdict or indictment of the jury, in the case of the explosion on board the Julia, is a just one. The agents of the Steam Navigation Company, and the captain and engineers of the Julia, might have been to blame for assuming what they did or should have known, was a fearful risk; but they did no more than Congress had told them they might do; and no more than, under the same sanction, is in daily practice by the owner of every high pressure boiler, stationary or otherwise, throughout the Union. The truth of this proposition we shall make evident to the satisfaction of every reader, whether a mechanic or not, before we conclude this article. We hold that the blame, in this case, as in nine-tenths of all similar cases everywhere, should fall, just where the jury has placed it, upon the Government, and, of course, by implication, upon the people themselves, for they are the government.

Column after column has been written and published, and learned men have for years been trying to think out some scientific cause for boiler explosions, which some other scientific cause might remedy. They will never find either. The cause is mechanical, and its remedy simple and sure.

We hold that there is but one universal cause for boiler explosions, and that is "insufficient strength in the boiler to resist the pressure of steam alone, to which all boilers may sometimes be contingently, and to which they are in all cases generally exposed." We will confine our examination to cylindrical boilers alone—the principle is equally applicable to all; and we will here premise, by saying, that the whole matter has been recently discussed and placed before the country by the American Association of Science, which lately met at Buffalo, New York.

Boilers are usually constructed of rolled plates 1-4 to 5-16 of an inch in thickness. We have already stated that Government allows a pressure of 115 lbs. to the square inch on $\frac{1}{4}$ -inch iron, in a 40-inch cylinder boiler, and all its equivalents in proportion. This is equal to a tension of 9,200 lbs. per square inch. Let us see how safe this allowance is.

Actual experiments, carefully made under the direction of the British government, and which are everywhere received by engineers as reliable, and which American engineers work from, have shown that 54,000 lbs. to the inch is the highest standard in boiler plates, consistent with safety. It requires but a small addition to that figure to fracture the best iron. Private experimenters, and among others Napier & Sons, of Glasgow, have placed it at a lower figure. But we will take the highest as our standard.

If the plates of a boiler were welded, the whole strength of the iron would be available

to resist the steam put upon it; but as such is not the case, we must deduct the amount of iron cut away in punching for the rivets. The rivet-holes, according to usual work, occupy 35.7 per cent. of the line of surface joined, leaving but 64.3 per cent. available for resistance. The act of punching causes more or less deterioration of strength in that portion of the iron left. Then the strong pressure from hammering and heading down the rivets exerts a further deteriorating influence. From these last considerations the best authorities add 14.7 per cent. of further deterioration, leaving for available use but 50 per cent. of the original strength of the iron employed.

Another consideration is now to be taken into account—the limit of elasticity in the iron, beyond which permanent extension would occur. This the best engineers have set down at one-third the breaking strength.

Now, then, we have, first 54,000 lbs. as the full strength of tension per square inch; from this we must deduct, as shown, 50 per cent. for rivet-holes and the closing up of the rivets. This deduction will leave us but 27,000 lbs. In considering the tension of iron, we have seen that it is safe to subject it to only one-third its breaking point—one-third of 27,000 is 9,000, or two hundred pounds less tension than, as we have seen, Government allows us to subject iron to, when used for transporting passengers, in the shape of steamboat boilers!

Thus Government allows engineers to make constant use of 200 lbs. more tension than practical experiments have shown to be safe, even for a moment, leaving nothing to cover accidental over-pressure, from short stoppages of discharge while steam is being continually made, or for any similar causes; and trusting merely to the under-estimate of engineers, or the accidental superiority of the iron in use, for the safety of the thousands of lives which are thus constantly exposed.

In almost or quite all other calculations involving the tension of iron, one-half the tension necessary to effect a permanent elongation—and of course a permanent weakening—is, in most cases, considered the limit of safety by judicious engineers. In other words, 4,500 lbs. is the utmost limit to which a careful engineer would expose a transverse section of iron, such as we are speaking of, in any other place than in a steamboat boiler. That is, one-sixth of the force required to produce a rupture ought to be, by the last mentioned rule, quite sufficient to risk, and leaves none too broad a margin for safety, especially where so much human life is endangered as is usually found on steamboats. Such a nearness to a dead line is quite as close as a person of ordinary caution would care to approach.

Let us look again at the practice. We have seen that engineers estimate the point at which we may reasonably expect a rupture to be 9,000 lbs., and yet Government allows steamboat owners to carry 9,200; a limit which is often reached in ordinary steaming, everywhere, by high-pressure boats. In all other engineering operations, as we shall now proceed to show, only one-sixth of the amount of 9,000, or 1,500 lbs., is considered safe and allowable. That is 1,500, engineers' estimate, instead of 9,200 in Government allowance. Surely the people can never have fully understood this thing, or the custom of such enormous risks could never have obtained and been sanctioned by Government!

One word by way of explanation of what we mean by this allowance of one-sixth the estimated actual strength in other engineering operations than those relating to the use and confinement of steam: If an engineer is to build a bridge, either of iron or wood, his calculations are never based on allowing a greater load upon it at any one time, than one-sixth of its estimated breaking weight—one-seventh is often the allowance. The strain allowed on the Victoria tubular bridge is but one-seventh its estimated strength; that allowed on the Niagara Suspension Bridge is one-sixth; that to be allowed on the magnificent suspension bridge now being erected over the Ohio at Cincinnati, has been fixed at one-seventh; the

blocks of stone at the base of the great dome of St. Peter's, at Rome, are subjected to only one-sixteenth the weight which would crush them; the stones which press the base of St. Paul's, in London, are but one-fourteenth their capacity for resistance. In fact, the practice of engineers is significant, in this point everywhere, in all structures and in all parts of structures, with the single exception of steam boilers! Why are they made an exception? Let the ghastly skeletons of the hecatombs of human beings who have been sacrificed to this cupidity of man, confront our next Legislatures and our next Congress, until those bodies are willing to pass laws which shall reduce the risk at present allowed at least one-half—less than that will not afford any adequate protection. One-third the present allowance, indeed, is margin little enough in steam boilers, liable as they are to so many unforeseen and often unavoidable accidents. If engineers would always be careful and cautious, less might do, but human nature is such that constant, unremitting care can never be expected.

There has not been a boiler explosion on a passenger steamboat on the river Thames, England, for about twenty years. The surviving engineer of the last casualty, in 1847, was found guilty of manslaughter and sent to the penitentiary for seven years.

In Sweden the laws are even more strict than in England; and the first explosion of a passenger steamboat on any waters subject to that government, to the best of our knowledge, is yet to be heard of. A properly constructed boiler, of good material, properly supplied with water, kept in good order, etc., will never explode; but in controlling a power of such terrible energy as steam, where we have a magazine of enormous force confined upon all sides, excepting only a single point, where it may be liberated for use; and when such a large amount of human life is constantly within fatal reach of its destructive energy, it would seem but a plain duty that those who manage it should be compelled to exercise at least one half as much caution as is, by general consent, required in any other engineering operation in which the risk of life and limb is involved. With such a limit set to the owner, it would be but reasonable to fix the heaviest penalty on the employee in case of accident, except some unforeseen and extraordinary cause, under which accidents would scarcely occur one time where a hundred do now. The only objection to such a radical change in our steamboat laws, would be the necessarily increased expense of building boilers and working steam under such changed conditions. But the steamboat owner has his remedy in increased charge; and who would not rather pay it than take the risk now assumed by every person who steps on board a boat, which is built and run in strict accordance with the law. People would absolutely refuse to cross a bridge which should be tested and pronounced safe on precisely the same principle that a boiler is considered safe. The whole country would be in an uproar to abate such a dangerous structure. Yet we unthinkingly take the risk every day on board our steamers, and think nothing of it. Perhaps, though, people generally have never fully understood the risk, as those who read this article may now understand it. If any doubt what we have written, let them take it to any well educated engineer, and our word for it, they will find all that we have said fully sustained.

WORKING POOR ROCK.—The Havilah Courier wishes to know by what process rock which will not pay over six or eight dollars per ton can be worked profitably; and says the miners of that section are afraid to tackle \$10 and \$15 rock. No unusual process is required to make eight and ten dollar rock pay, in any locality, where supplies can be obtained as cheaply as in Nevada or Tuolumne counties; provided the veins are large and well-developed, so that the rock can be cheaply mined. We might instance the Adelaide mine in Mariposa county; the Watawa, Union, Patterson, Blue Tent, and perhaps others, in Tuolumne county; Soggs' mine in Nevada; Perria's mine in Grass Valley, and the Eureka mine in Plumas county, as among those which are worked to a profit with a yield not exceeding eight dollars per ton. No doubt there are a great number of others to which reference might be made if we had the statistics at hand. Such mines can only be worked at a profit by the careful avoidance of all unnecessary expense, and under the best financial management. Of course small veins cannot be worked at so low a figure.

CRUSHING MACHINERY.—A large-sized Hanson quartz crusher as shipped for the Ogden mill in Nevada, from the Golden State Foundry, on Thursday last.

MINING MISMANAGEMENTS.—SUGGESTIONS FOR THE FUTURE.

A very large part of the injurious consequences which have resulted to innocent mining stockholders are chiefly attributable to the apathetic feeling which pervaded that large body, so long as inflation and a continuous general rise in the value of mining stocks existed. Even after many of the evils and frauds complained of were made known, and thoroughly exposed, no attempt was made by those interested to induce the late Legislature to form enactments calculated to prevent, or at all events to render more difficult in future, the malpractices of the past. Scarcely anything more was done than amending the laws relating to assessments. Perhaps this is not so much to be regretted, because stockholders, under the general Incorporation Law, have the remedy in their own hands, of which, if they do not take advantage, they have no right to look for the sympathies of the non-interested.

In the first place trustees ought only to be elected for a term of three months, to carry out which it would be necessary to hold a general meeting of the stockholders once every quarter of a year. At such meetings the trustees should give a full account of their past stewardship, and, above all, the superintendent or trustees should, at the same time, present an account of the works proposed to be executed during the following quarter, accompanied with a detailed account of the probable outlay and returns; and no works or contracts should be permitted excepting at the personal risk of the trustees, other than those submitted and approved of by a majority of the stockholders present, or by proxy, at such quarterly meeting. It is in the power of the proprietors of every mining incorporation to embody such rules in their by-laws, and if stockholders neglect to do so, the blame lies with themselves; or, if after enacting such, they fail to attend such general periodical meetings, and fail to take any personal interest in the administration of their affairs, however much on moral grounds it may be regretted, it is too much to expect the strong sympathies of their neighbors for misfortunes, often entirely and in general chiefly attributable to their own negligence.

In making this last remark, we have in view a strong case in point. The Ophir company, owing to the fact that a sufficient number of shareholders could not be assembled to form a quorum, have not held a general meeting for the transaction and consideration of its affairs for nearly twenty months; in which interval, if the periodical but unofficial accounts are to be credited, something like one million dollars' worth of bullion has been obtained from this mine; yet, no dividend has been paid or is promised to be paid out of this enormous sum, but, on the contrary, rumors circulate that it is now deeper in debt than it was at its general meeting, held about twenty months ago. Be that as it may, the fact is patent that something like one million dollars' worth of bullion has been abstracted from this mine, not one cent of which has found its way to the pockets of any of the stockholders, unless to such as were paid officials. It is equally apparent that the mine has had abstracted therefrom, even at a low valuation, one million dollars' worth of specie. Under such circumstances, it would naturally, to a sensible body of stockholders, alert to their own interests, become a serious question whether or not, seeing the deeper they sink the more difficult and expensive becomes the cost of extraction, it would not be better to suspend operations until a more economical and efficient mode of management could be adopted. An advantage of only twenty per cent. in this respect would probably result in realizing to the stockholders a quarterly dividend of twenty to twenty-five dollars per foot, and without any "rigging" permanently enhance the capital value fully fifty-five per cent. over current rates. At present all the benefits obtainable are absorbed by officials.

We advocate quarterly meetings, settlements, accounts, and dividends, as being the true medium between annual and monthly statements. It often occurs in mining that it is prudent and

economical to put for short periods nearly the whole force of the establishment on unproductive or little productive works; this can scarcely be done when dividends are to be provided for monthly. The Gould & Curry company discovered this, and, therefore, very prudently made a change from monthly to quarterly payments of dividends.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, on occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

NEW INVENTIONS.

ANOTHER SAFETY CAGE.—According to the Gold Hill News, Mr. Frank Thayer and Aleck Dunn, two practical miners of that place, have devised a new safety cage, which experiments show to be "ahead of anything ever before invented as a 'safety cage.'" A loaded car will not fall over half an inch on the cutting or breaking of the rope by which it is being elevated; while upon an adjustment of the rope, a slight pull will instantly free the teeth which have caught and hold the cage, and allow the cage to be raised or lowered as the case may be. The News further says this invention of Thayer & Dunn is represented to us as being entirely different from that of Frank Denver & Co., and its mechanical discoverers are going to apply for a patent, as it is spoken of by Charley Bonner and others as superior to any safety cage ever invented. It is in operation at the Curtis shaft.

NEW MODE OF STEAMBOAT PROPULSION.—Some quite extensive experiments have recently been made in Europe for the propulsion of vessels, by the reaction of water forced out of pipes, which are supplied by suction through the bilge or bottom of the vessel. An important improvement on the European principle has recently been devised by Messrs. Kimble & Hubbe, of New York, whereby the objections of the European invention is said to be entirely obviated. The New York invention is, moreover, made applicable to "double-enders," so that a vessel can be made to move either way with equal facility. This is accomplished by an arrangement by which the outside projection of the nozzle pipes can be made to point in either direction, and the water being forced out of them, strikes or reacts upon the water in which the vessel is floating, thereby producing a propulsive power. It is claimed that vessels constructed on this principle attain a much higher rate of speed, with a less consumption of coal, than is the case with paddle-wheel or screw steamers, that the steering of such new vessel is easier and more certain, that the shaking of the vessel (caused by the action of the engine on the screw or paddle-wheel) is here entirely avoided. These, and other advantages, make it desirable to test boats constructed on that principle, and for that purpose the inventors have designed an experimental boat on a large scale, which they intend to build and to sail with it on the Hudson river, and which they think will attain a speed of twenty-five or thirty miles an hour.

PATENTS RECENTLY ISSUED.

TRIMMING LAMPS.—C. H. Bagley, of Elgin, Ill., has devised an important attachment to be affixed to the wick-tubes of coal oil lamps, by which they may be trimmed without removing the glass or the use of shears. This improvement consists of a scraper which is made to move across the top of the wick tube and its wick, thus scraping off or removing the charred portion of the wick.

CARPENTER'S CLAMP.—Hermann Schmidt, New York City, has invented a carpenter's clamp which is provided with movable nuts in such a manner that by releasing the nuts from the screws, the two jaws of the clamp can be moved freely in either direction and readily adjusted at the desired distance apart.

STREET LAMP.—B. A. Johnson, Jeffersonville, Ind., has devised a plan for forming the bottom or base portion of a street lantern, of cast metal, and the body of sheet metal, whereby sufficient strength is secured in connection with durability and convenience of handling, and diminished expense.

CIGAR HOLDER AND HAT HOOK.—Charles Gschwind and John Grether, Union Hill, N. J.: This invention relates to a simple device which can be conveniently carried in the pocket and used as a cigar holder, and also a hat hook whereby the hat can be suspended in any convenient spot.

PLOW COULTER.—Samuel Casebein, Roseburg, Oregon, claims an application to plows of an improved cutter.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE. DEWEY & CO., Patent Agents, 505 Clay Street, San Francisco.

CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

C. T. ELLSWORTH, Shasta, sends us a massive specimen of silver ore from the Chicago mine, Shasta county. This ore contains a very large percentage of argentiferous galena, and affords another proof that silver will yet be one of the important mineral productions of California. The gangue is a white quartz, slightly tinted with green, evidently taken from a talcose slate bedrock. We would thank the donor to give us information concerning the mine and its development.

HUDSONITE.—Such is the term which New York mineralogists have given to a new (?) mineral found in considerable mass about forty-five miles from New York; some specimens of which have been received by mail, since our last publication, by Professor Rowlandson. They were transmitted to that gentleman by Professor C. S. Richardson, of New York, accompanied by the statement that it was found in considerable quantity about forty-five miles from New York; but that assays differed considerably as to its composition. Its average may probably be taken at thirty per cent. sulphur, three and a half per cent. copper, nickel one to two per cent., iron fifty per cent., and the balance gangues, with a small quantity of what appears to consist of a polysulphide of rather an unusual character, and which might easily be taken for either sulphide of molybdenum, or impure plumbago. The last named substance, from the letter of Professor C. S. Richardson, appears to us to have been mistakenly pronounced plumbago. Hudsonite does not appear to differ, in external appearance, from the mineral we alluded to in our last number as having some years ago been found in Scotland, on the estate of the Duke of Argyll; excepting that in Hudsonite, sulphide of molybdenum may be present, accompanied also by silver and gold. The external character of Hudsonite greatly resembles the specimens sent to us by Mr. J. Alden Smith, from Colorado, and which are supposed to be of meteoric origin.

DISASTROUS FIRE.—A very disastrous fire occurred on Thursday morning at the corner of First and Market streets, in this city. The fire was probably the work of an incendiary, as it was seen to break out almost simultaneously in several different places. The principal sufferers were Eisen Bros. & Co. of the Pioneer Flour Mills; Wheelan & Co., of the Alta Mills, and W. & T. Garratt, machinists and brass founders. The loss of each of these parties is estimated at from fifteen to twenty thousand dollars, not more than one-third of which was covered by insurance. The loss of the Messrs. Garrett is particularly heavy, in buildings, stock, tools and machinery, which it will require some time and a large cost to replace. These gentlemen are well known as enterprising and energetic men, and we doubt not they will soon be on their feet again. They have the fullest sympathy of their friends and the community generally. The total loss was about \$70,000.

TOWNE & BACON, Print—

Stock Certificates,
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And every kind of Job Work that may be desired.

A NEW ARTICLE OF TAGS FOR GROCERS' USE.

1612 536 Clay street, opposite Leidesdorff.

OIL! OIL!! OIL!!!

—OUR—

MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

Dell, Cranna & Co.,

511 1-2 and 513 Front Street, San Francisco

IMPORTERS OF

COAL OILS AND LAMP STOCK.

212 1/2 3rd St

A Hint to Advertisers in General, and San Franciscans in Particular.

The following article from the *Mountain Messenger*, published in Downieville, the county seat of El Dorado, illustrates an important fact which some people are prone to overlook, viz: that it is not the lowest priced advertising which is the cheapest. For instance, an advertisement inserted for \$30 in a journal issuing 3,000 copies, is twice as cheap as at \$20 in a paper having only 1,000 circulation:

Judicious Advertising.

It is passing strange how few business men in the cities of this State understand advertising judiciously in the country press, whether making their arrangements with the publishers or their agents in San Francisco. There are five different agencies which receive advertising for the country papers of the interior, only two or three of which are able to secure an agency for first-class papers, such as have an extensive circulation and established rates of advertising, from which they decline to vary at the option of the advertiser. These papers are usually full of advertising at fair rates, only a trifle in advance of papers having a very limited circulation. The other agents and publishers have no established prices, and consequently overcharge if they have an opportunity, but generally take advertising at about twenty per cent. less than usual rates; and the foolish advertiser who gets his advertisements into a score or two of these journals doubtless thinks he is advertising judiciously and cheaply, when in fact he is paying the very dearest price, considering the limited circulation his advertisement obtains. Thus, many business men, though they doubtless find it pays to advertise, even in this class of papers at this low rate, are advertising injudiciously and paying double rates for the circulation they desire to and might obtain by advertising in first-class papers, the rates of which are but a trifle higher than those which advertise for such prices as they can obtain. These low price advertising agents work an injury to both publishers and advertisers, and are rarely able to liquidate when the quarterly settlement is due, and their names are handed about through the press with epithets of well merited contempt.

While the penny-wise style of business referred to pays one class of advertisers very well, it works injury to others who fail to obtain the value of their money. There is hardly any kind of trade extensively carried on in San Francisco that will not pay to advertise throughout the State, to the mutual benefit of the advertiser and publisher; but a want of general information concerning the amount of trade to be expected has established a want of confidence to try. Advertising in the East is more general because statistics of trade and its profits prove its value, almost without trial. The inducements to advertise in this State are no less, as we propose to show by reference to the consumption of goods in this country.

From the Auditor's office we learn that there are no less than two hundred licensed retail dealers in Sierra county, whose annual sales in the aggregate foot up the handsome sum of \$3,500,000, and it is to be presumed that none of these dealers have overstated their sales. To this amount may be added \$1,500,000 worth of goods purchased on private account for miners' winter stores, and for the supply of incorporated companies and quartz mills, making in total a valuable trade of about \$5,000,000 annually.

The wealth and population of a section, and the influence and circulation of an old established paper, determine its value as an advertising medium—a matter never lost sight of by an experienced advertiser.

The *Messenger* is one of the oldest and best established papers in the State, and has always enjoyed an extensive circulation (wholly unaided by party contributions) equalled by no other in this locality at any time during the last ten years, and has entered upon its thirteenth volume with increased subscriptions and extended advertising patronage. It has been twice enlarged since its removal from La Porte to Downieville, in 1864, and now presents more reading space and type than any other weekly local journal in the State (not connected with a daily issue), and more local matter. No business man is without it, and its circulation extends throughout the mines in all the different camps of this county and vicinity, as follows: Forest City, Aleghany, Chips' Flat, Minnesota, American Hill, Sierra Valley, Downieville, Goodyear's Bar, Camptonville, Eureka, Port Wine, La Porte, Sawpit Flat, Gibsonville, Newark, Poker Flat, Howland Flat, Pine Grove, and St. Louis, besides many other smaller camps.

The *Messenger* has an extensive job office, and does the printing and advertising of the county.

PATENT BUSINESS.

We have lately associated with us in the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner.

DEWEY & CO.,
San Francisco, June, 1866. Patent Solicitors.

By MAIL.—The MINING AND SCIENTIFIC PRESS will be sent by mail to any part of the civilized world. In case of removal, subscribers have only to inform us of the post-office address of their old and new location, and the paper will be sent accordingly.

F. N. BACON, LINAS STEWART.

BACON & STEWART, PRACTICAL MACHINISTS,

No. 51 Beale street, San Francisco.
All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING PRESSES.
All jobs entrusted to us will be attended to with promptness and on reasonable terms. The patronage of *Printers* is respectfully solicited. 1513 1/2

We receive, regularly as clock work, this exceedingly valuable and interesting journal.—[Napa Reporter.]

Brevities.

A TELEGRAPHIC short hand has been invented by Captain Bolton, an Englishman.

TWENTY-SIX pounds of mulberry seed has just arrived from Japan. It cost, delivered here, about eleven dollars per pound. Wilson Flint was the importer.

It is stated that about two thousand miners are now at work in Louisa and Goodland counties, Virginia, and that the average is two pennyweights a day to each miner.

It is said that the workmen in the silver mines of Saxony receive only thirty cents a day for their labor. Boys of fifteen years work eight hours, and receive twelve cents.

DURING the month of August upward of one hundred telegraph poles were destroyed between Salt Lake and the Sierra Nevada by lightning; an accident that had never occurred before.

In Pittsburg, Pa., there are forty-one foundries. In the first-class establishments from twenty-five to forty tons of metal can be used in a single casting. They employ an average of fifty hands.

A STEAM railway is to be built to the summit of Mount Washington. Half a mile has been completed, and is a success. Between the rails lies a wrought-iron ladder, in which the feet of the cogged driving-wheel find a firm hold. The ascent is one foot in three.

A LETTER from Dalton, Georgia, says that one company there took out \$10,000 worth of gold from the mines in one day, and the capitalists of New York and Boston are about to ship extensive mining machinery to that place for the purpose of working the mines.

THE yield of the precious metals in the United States for 1866 is estimated at \$85,000,000, by the American *Exchange and Review* of New York. The largest proportion is, of course, from California. Then follow in order, Nevada, Montana, Idaho, Oregon and Colorado.

The diving-bell used in building the piers for the Newburyport bridge over the Merrimac river, is the largest bell ever made in this country—weighing upwards of six tons. It is pyramidal in shape, and is six feet square at the bottom, and about seven feet in height to the apex. It is constructed of iron two and a half inches in thickness.

THE Reese River *Reneille* describes a singular plant lately found growing in the hot water of Hot Creek district. It is a delicate vine-like plant, almost as fine as hair, holding myriads of tiny leaves, nearly imperceptible, and of bright emerald green. It thrives only in water so hot that the hand cannot be borne in it. Many efforts were made, in spite of scalded hands, to gather and preserve specimens, but it was so tiny and delicate that it was found to be impossible.

A HEATHENISH ARISTOCRAT.—The Duke of Richmond objects to having his estate of Goodwood Park disfigured by posts and wires, and a local electric telegraph, which is only used on special occasions, which should pass through his place, has a break which is filled up with carrier pigeons, whose flight over his grounds he cannot control. The distance of the break is six miles. The pigeons occupy three and a quarter minutes in making the transit.

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED

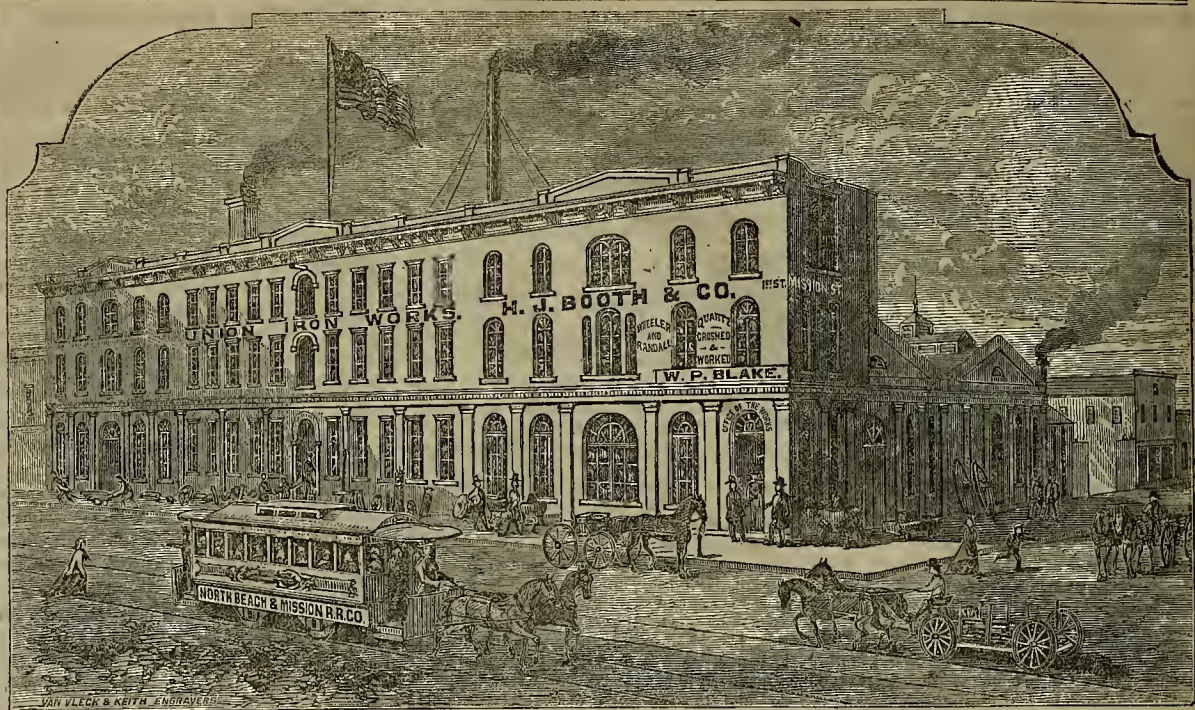
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 runnings, giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.

Genuine White Iron Stamp Shoes and Dies
Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 15v19xy-11



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hay, Rag, Screw and Drop Presses, Coining Machinery, File Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS. Locomotive, Flue, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curve Pan, Zeiss's Wheeler's Improved flat bottom pan, Beldin's pan, Veatch's tubs, Printer's concentrators, Wakle's pans, Beers' pan, German Barrels, Arastir Oaring, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRESCOTT, IRVING M. SCOTT
24v12 **H. J. BOOTH & CO.**

GEORGE T. PRACY,
MACHINE WORKS,
Nos 109 and 111 Mission street, between Main and Spear,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

Special attention paid to Repairing. 25 qy-3

T. G. DURNING. J. F. FISHER.

PACIFIC FILE FACTORY,

No. 53 Beale Street,
Between Market and Mission streets, San Francisco.

FILES RECUT AND WARRANTED AS GOOD AS NEW,
For all purposes. The only establishment in the State.
We also manufacture Reapers and Mower Sections.
8v13-1y **DURNING & FISHER, Prop'rs.**

LEWIS COFFEY, J. S. KIDSON,
LEWIS COFFEY & RISON,
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment in the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

GLOBE

Foundry and Machine Shop,
STOCKTON, CAL.

KEEP, BLAKE & CO.,

MANUFACTURERS OF
Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed. 13v13-1y

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12-3m

Our Patent Agency.

The PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalled with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

J. O. HANSCOM, H. S. SMITH, **HANSCOM & CO.,** (T. PENDERGAST, W. W. HANSCOM)
Etna Iron Works!

Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight, without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grader and Amalgamator,

Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,
Giving greater power at lower cost than any wheel in use. Send for one of our circulars, giving full details. All Wheels warranted to give the power as set forth, or the money will be refunded.

Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies."

None genuine unless obtained from us. Every one warranted.
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited. 19v12

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF
STEAM ENGINES,

Quartz, Flour and Saw Mills,
Moore's Grinder and Amalgamator, Mining Pumps, Amalgamators, and all kinds of Machinery.

Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco. 3-qy

NEPTUNE IRON WORKS,
Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MARINE, Locomotive,
And all kinds of HIGH PRESSURE
Steam Boilers
MADE.
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.
Old Boilers Repaired
D. CAMERON.
6v12-1y

UNION IRON WORKS,
Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston Packing, for new and old cylinders, manufactured to order.
Front Street, between N and O streets,
14v11 SACRAMENTO CITY

SAN FRANCISCO
Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of
Marine and Stationary Engines!
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Cider, Cotton and Tobacco Presses of the latest Improved Patterns.
Brodie's Improved Patent WIND BLAST SEPARATOR, for Dry Crushing; Buux & Guile's Amalgamator and Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston-Packing, requires no springs or screws; is always steam-tight, without excessive friction, and never gets slack or leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.

6v11-1y **DEVORE, DINSMORE & CO**

JAMES MACKEN,
COPPERSMITH,

No. 226 Fremont st., bet. Howard & Folsom
All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.
Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S
Steam Engine Works,
Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 25v12-3m

MR. O'HARA has erected a new roasting furnace at Empire, near Carson, which, according to the Nye county News, is a complete success. A letter is published which states that the new furnace had just finished working seventy-five tons of tailings at Dayton. The work was accomplished in seven and a half days. The letter adds:

Messrs. O'Hara & Thompson have a contract to erect a furnace for the Yellow Jacket mill, and will also put up one at the Mexican mill. They have endeavored to keep their operations as quiet as possible, until they had satisfied those in their own section, and now say that as soon as they get one erected here, they will "play out" all the old furnaces. They can roast first class ore for \$1.75 per ton, and all ores that require less than eight hours' roasting for \$1.25 per ton. For reference I am authorized to say that if any one has a doubt of the perfectness of the furnace, for them to address Gov. Bladell, Jno. B. Winters, or A. B. Paal, and they will satisfy them that it is a perfect success. The seventy-five tons roasted at Dayton cost \$1.12½ per ton.

EASY TO REMEMBER.—The length of the Atlantic cable from the point where it leaves Valentia Island to the spot where it is landed at Heart's Content, is precisely 1866 miles. It is a singular coincidence that its length should exactly conform to the date of the year of its completion.

With four weights of respectively one pound, three pounds, nine pounds, and twenty-seven pounds, any number of pounds from one to forty may be weighed.

THE LAST VOLUME.—George Bancroft, the historian, is about to publish the last volume of his history of the United States.

FIRST PREMIUMS!



FOR PRINTING,
AWARDED AT THE
MECHANICS' INDUSTRIAL EXHIBITION
SAN FRANCISCO, 1865,

—AND AT THE—
State Fair at Sacramento, 1865,

—TO—

DEWEY & CO.,
BOOK AND JOB PRINTERS,
PUBLISHERS OF THE
MINING AND SCIENTIFIC PRESS,
505 Clay street, San Francisco.

WM. H. KEITH & CO.,
Chemists and Apothecaries,

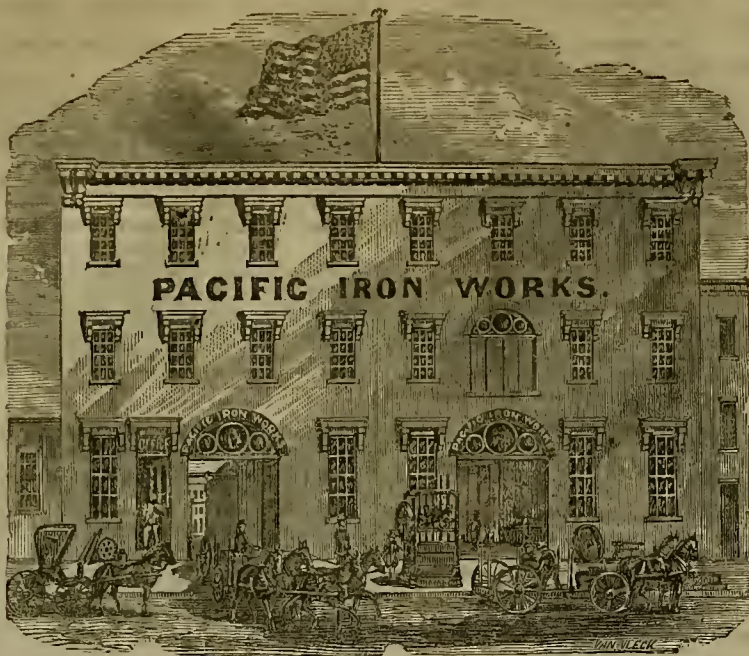
PROPRIETORS AND MANUFACTURERS OF

WM. H. KEITH & CO'S WINE OF PEPINE, OR RENNET Wine, a new and efficacious remedy for Dyspepsia, Constipation, etc. **WM. H. KEITH & CO'S GLUCOLIN**, a new and valuable compound of Glycerine Oil, put up in glass jars. **WM. H. KEITH & CO'S LEMON AFFEITIF**, or Purgative Lemonade, an agreeable, cooling and active purgative, of mild laxative, as required. **WM. H. KEITH & CO'S SAPONACEOUS TOOTH POWDER**. **DEVINE'S PITCH LOZENGES**, for the cure of coughs and colds. **WM. H. KEITH & CO'S FLORENTINE TOOTH WASH**. **WM. H. KEITH & CO'S GRANULA**. Effervescent Citrate of Magnesia. **WM. H. KEITH & CO'S ROSEMARY AND CASTOR OIL HAIR INVIGORATOR**.
Also, just received, a large and well-selected invoice of **HEINSTEIN'S CELEBRATED INSTRUMENTS**, consisting in part of Amputating and Obstetric sets, Pocket Cases, etc. Physicians and others at a distance ordering goods from us, can depend upon having their orders filled with the same regard to quality and price, as though obtained in person, and we give particular attention to packing and forwarding the same.

WM. H. KEITH & CO.,
Apothecaries' Hall, No. 521 Montgomery street,
157 1/2 Between Clay and Commercial, San Francisco.

California Steam Navigation
COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE.
" CURENOPSIS.....CAPT. A. FOSTER.
" YUSENITE.....CAPT. W. BROWLEY.
" CORNELIA.....CAPT. E. CONCKLIN.
One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted) for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Steamships ALAN, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SENATOR leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.
Office of the Company, northeast corner of Front and Jackson streets.
B. M. HARTSHORNE,
President.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their, greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents.

2112 F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL,
K Street, between Third and Fourth,
SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or simply to suit individuals—all new-furnished, large and nicely ventilated. No expense has been saved to make it comfortable and pleasant for guests.
Price of Rooms very low. Meals, 25 cents.
512-2m B. EISENMENGER.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets,
Meals, 25 cents.
Board, per week, \$4.00
Board and Lodging, per day, 1.00
Single Rooms, 50 cents.
Railroad Ticket Office and Stage Office on first floor.
712-3m A. J. SENATZ, Proprietor.

Rheumatism!!
ANOTHER WITNESS!

SALMON FALLS, June 17, 1865.
H. BOWMAN—DEAR SIR: HAVING HAD A FAIR test of the virtues of RICHARDS' REMEDY FOR RHEUMATISM, I take great pleasure in stating that its effects with me have been very beneficial. I have been afflicted for three years severely afflicted with Rheumatism, and having tried everything I could hear of, without any permanent benefit, I concluded to try this.
On taking the medicine, in three days I experienced great relief, and in one week was entirely free from pain, and had completely recovered the use of my limbs, which had become almost powerless, so much so that I could not dress myself without assistance. Since that time I have been free from Rheumatism. I have recommended RICHARDS' REMEDY to numerous friends, and in every case it has proved successful. I therefore take great pleasure in recommending it to all who are afflicted with Rheumatism, and especially to all mercurial chronic Rheumatism cases.
Yours respectfully,
(Signed) ERASTUS PARSONS,
President of the Gen. Grant Mining Company.

RICHARDS' REMEDY is for sale by
H. BOWMAN,
Druggist, Sacramento. 1113
Price, \$2.50 per Bottle.

Important to Californians.—Many inventors have lately had the idea of patenting machinery and in some cases fatally delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with one but active and experienced solicitors. The Mining and Scientific Press PATENT AGENCY has strictly complied with the regulations of the Department, and properly filed all necessary papers as Claim Agents.

HAYWARD, COLEMAN & CO.,
IMPORTERS AND REFINERS

Illuminating, Lubricating,
PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO,—

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning oil.
A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand. 413-3m 414 Front street, San Francisco.

THE CALIFORNIA
Aerated or Unfermented
BREAD COMPANY.

Bakery on Folsom Street,
Between Tenth and Eleventh.....SAN FRANCISCO

MESSEURS TAGGART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in copartnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit all orders for their truly wholesome and cleanly Bread. We have a sufficient number of delivery wagons at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.

Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention.

Order box at C. J. Hawley & Co's Grocery, corner Second and Jessie streets; Rowland & Walker, 67 Clay street; Plum's Carpet Store, Montgomery street, opposite Lick House; C. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the route-men like-wise. We expect soon to be prepared to supply Pastry, likewise the Boston Brown Bread, and Buns of the first quality. Due notice will be given.
The present Company is entirely independent of the former California Unfermented Bread Company, neither of them having been in any way connected with that company.

We would cordially invite the public to make a visit to our new bakery.

413-3m S. R. BULKLEY, Business Partner.

RADICAL CURE
—OF—
RUPTURE!

Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process. 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU

Has his studies and manufactures in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.

He has no connection with any Agency. 813-131p

Our Circulation.—THE MINING AND SCIENTIFIC PRESS has a large and permanent subscription list, and enjoys a more universal circulation among stockholders and persons directly interested in mining than any other paper on this coast.

Metallurgy.

BOALT & STETEFELDT,
Metallurgists and Mining Engineers

AUSTIN, NEVADA.

Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 1111

G. W. MAYNARD. J. D. TIEMANN.

MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
210 Pearl street, New York,

—AND—
CENTRAL CITY, COLORADO.
1912-13

Copper, Lead, Gold, Silver,
Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

THOMAS PRICE,

Agent for Townsend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.

Special attention paid to Gold Bearing Sulphurates. 15110-5m

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Haskell, for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to
JOHN N. RISDON,
2112 At Coffey & Risdon's, San Francisco.

MARTIN & CO.,

Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE
PURCHASE OF COPPER ORES.
Assaying eight percent, and upwards of Copper to the ton. We will make advances upon Ores of Copper.
San Francisco, Post Office Box 1259. 22

PACIFIC CHEMICAL WORKS

—AND—
ASSAY OFFICE.

THE UNDERSIGNED HAVE ASSOCIATED THEMSELVES for the purpose of carrying on the business of

Manufacturing Chemicals,
Assaying in all its branches, and the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

FALKENAU & HANKS,
Laboratory, corner Folsom and Center streets,
Mission Dolores,
Office, 629 Washington street, San Francisco. 212-4m

EUROPEAN

METALLURGICAL WORKS,

—AND—
Practical Mining School,
Bryant Street, between Third and Fourth,
SAN FRANCISCO.

THE PROPRIETORS are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the melting process attended to. Sulphurated pyrites, and the so-called "reluctant ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, robbing by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desiring to pursue the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

S. F. KIMBALL, J. R. MURPHY.
1010

JOHN TAYLOR & CO.
IMPORTERS,

AND DEALERS IN
ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware,
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & ORT. LING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, NUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.
A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' Sundries, Acids and Chemicals, constantly on hand.
San Francisco March 6, 1865. 111111

By Express.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff) on papers sent by express. If connecting express in the interior make additional charges, subscribers must themselves settle the same.

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WM. BARTLING, HENRY SIMBALL.
BARTLING & KIMBALL,
BOOK BINDERS,
Paper Rulers and Blank Book Manufacturers.
505 Clay street, (southwest cor. Sansome),
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On the 10th, 18th and 30th of each month that has
30 days.
On the 10th, 19th and 30th of each month that has
31 days.
When the 10th, 19th and 30th fall on Sunday, they will
leave on Saturday preceding; when the 18th falls on Sun-
day, they will leave on Monday following.
Steamer leaving San Francisco on the 10th touches at
Manzanillo. All touch at Acapulco.
Departures of 14th or 19th connect with French Trans-
Atlantic Co.'s steamer for St. Nazaire, and English steamer
for South America.
Departure of 10th connects with English steamer for
Southampton, and P. R. R. Co.'s steamer for Central
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Lima, the port of the new mines.
The following Steamships will be dispatched on dates as
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October 19th—GOLDEN CITY.....Capt. Jas. T. Watkins
Connecting with HENRY CHAUNCEY, Capt. Gray.
October 30th—MONTANA.....Capt. Geo. H. Bradbury,
Connecting with OCEAN QUEEN, Capt. Weir.
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An experienced Surgeon on board. Medicine and attend-
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o'clock.
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cific Mail Steamship Co's office, corner of Sacramento and
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NOTICE!
Union Mattole Oil Company.
(WORKS: HUMBOLDT COUNTY, CAL.)
ALL Persons are hereby notified and warned
not to purchase any of the following described cer-
tificates or shares of stock in the Union Mattole Oil Com-
pany, advertised to be sold at public auction by Messrs.
Olney & Co., at No. 418 Montgomery street, San Francisco,
on Monday, October 15th, 1886, at 12 o'clock, M., of said day,
under delinquent assessment sale, as ordered by the Trustees
of the Union Mattole Oil Company. Said assessment and
sale (so far as relates to the certificates and Stock herein
mentioned) being illegal, the undersigned owners of the
certificates and Stock designated, give this notice:
James M. Cox, Certificate No. 177, 1 share; F. Ellery,
Certificate No. 237, 1 share; D. H. Henderson, Certificates
Nos. 245, 246 and 247, for 40 shares; Andrew Henry, Cer-
tificates Nos. 18, 19 and 20, for 10 shares; A. H. Hadley, Cer-
tificates Nos. 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, for 120 shares; James W.
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Nos. 254, 255, 256, 257, 258, 259, 260, and 261, for 8 shares; R. K.
Smith, Certificates Nos. 110, 111, 112, 113, 114, 115, 116, 117, 118, 119,
120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

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(WORKS: HUMBOLDT COUNTY, CAL.)
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pany, advertised to be sold at public auction by Messrs.
Olney & Co., at No. 418 Montgomery street, San Francisco,
on Monday, October 15th, 1886, at 12 o'clock, M., of said day,
under delinquent assessment sale, as ordered by the Trustees
of the Union Mattole Oil Company. Said assessment and
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James M. Cox, Certificate No. 177, 1 share; F. Ellery,
Certificate No. 237, 1 share; D. H. Henderson, Certificates
Nos. 245, 246 and 247, for 40 shares; Andrew Henry, Cer-
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Chileana Mining Company—District of Ures, Sonora, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-seventh day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Gautier F.	10	30	\$75 00
Howard H.	15	18	45 00
Howard H.	17	18	45 00
Moschler J.	36	25	62 50
Moschler J.	37	25	62 50
Teschmacher II F.	14	25	45 00
Teschmacher II F.	44	7	17 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty-seventh day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salerooms of John Middleton & Son, No. 404 Montgomery street, San Francisco, on the fifth day of October, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOISE, Secretary.

Office, 318 California street, Up stairs, San Francisco, California.

Delta Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fourteenth day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
H. H. Allen.	256	3	15 00
J. C. Batten.	211	20	100 00
E. G. Biddle.	333	1734	86 75
H. F. Catter.	14	21	105 00
H. F. Catter.	200	5	25 00
E. F. Catter.	243	10	50 00
James Camp.	336	10	50 00
G. H. W. Crockett.	244	5	25 00
N. H. Jacobs.	331	5	25 00
T. E. Lindenberg.	332	15	75 00
T. E. Lindenberg.	337	2	10 00
Wm. Fridman.	233	6	30 00

And in accordance with law, and an order of the Board of Trustees, made on the fourteenth day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Jones & Bendixen at the office of the Company, on the second day of November, 1886, at the hour of 2 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary.

Office, 402 Front street, San Francisco.

Ethan Allen Gold and Silver Mining Company.

Location of Works: Austin, Lander County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of October, 1886, an assessment of fifty cents (\$0.50) per share was levied upon the capital stock of said Company, payable October sixth, 1886, in United States gold and silver coin, to the Secretary, at the office of the Company, 620 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the sixth day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. B. CONDON, Secretary.

Office, 620 Washington street, (Room 5) San Francisco.

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.

Assessment No. 14. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of September, 1886, an assessment of two and one half dollars (\$2.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, only.

Any stock upon which said assessment shall remain unpaid on the twentieth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. G. WOOD, Secretary.

Office, 338 Montgomery street, San Francisco.

Hannan Copper Mining Company—Location: Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of September, 1886, an assessment of fifteen (15) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, S. S. Sweet, No. 609 Market street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. S. SWEET, Secretary.

Office, No. 609 Market street, San Francisco, Cal.

Humboldt Gold and Silver Mining Company, Sierra District, Humboldt County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of September, 1886, an assessment of two dollars (\$2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, S. O'Hara Taffee, No. 430 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the first day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

G. O'HARA TAAFFE, Secretary.

Office, No. 430 California street, San Francisco.

I. X. L. Gold and Silver Mining Company, Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-ninth day of September, 1886, an assessment of one dollar and fifty (\$1.50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary only, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twelfth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JAMES C. DAYLEY, Secretary.

Office, No. 333 Montgomery street, San Francisco, Cal.

Keystone Mining Company, Copper Canon District, Copperopolis, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of September, 1886, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States, to the Secretary, at his office, No. 440 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the tenth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. P. SUTTON, Secretary.

Office, 440 California street, San Francisco.

Kentucky Copper Mining Company, Calaveras County, California.

Notice is hereby given, that the certificates, No. 44 of fifteen shares, and No. 109 of ten shares, Kentucky Copper Mining Company, standing in my name, have been lost. The transfer being stopped, the public are cautioned against purchasing the same.

J. R. DENNIS.

San Francisco, August 20, 1886.

La Blanca Gold and Silver Mining Company, District of San Antonio, Soconusco, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of October, 1886, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighth day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the sixth day of December, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary.

Office, 318 California street.

Mina Roca de las Flores Mining and Mill Company, Camp Flores, near West Point, Calaveras County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment (No. 13) levied on the twenty-first day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Anderson & Co. C. A.	42	5	\$ 5 00
Anderson & Co. C. A.	43	3	3 00
Anderson & Co. C. A.	44	2	2 00
Anderson & Co. C. A.	45	2	2 00
Anderson & Co. C. A.	153	3	3 00
Anderson & Co. C. A.	162	1	1 00
Anderson & Co. C. A.	163	1	1 00
Anderson & Co. C. A.	164	1	1 00
Anderson & Co. C. A.	227	10	10 00
Anderson & Co. C. A.	228	10	10 00
Anderson & Co. C. A.	229	5	5 00
Baker P.	442	1	1 00
Bartolome H. G.	224	5	5 00
Bartolome H. G.	215	5	5 00
Bian-Hual A.	467	100	100 00
Bouglival A.	628	60	60 00
Bouglival A.	629	30	30 00
Bouglival A.	630	50	50 00
Bouglival A.	631	35	35 00
Bouglival A.	632	15	15 00
Bouglival A.	633	50	50 00
Bouglival A.	634	60	60 00
Boysen C.	125	5	5 00
Boysen C.	126	11	11 00
Boysen C.	127	1	1 00
Crevolin F.	314	10	10 00
Crevolin F.	315	5	5 00
Crevolin F.	316	5	5 00
Choussie L.	615	20	20 00
Christenson L.	693	143	143 00
Collette H.	703	13	13 00
Collette H.	704	10	10 00
Collette H.	705	10	10 00
Ellerhorst & Co. H. D.	2	6	6 00
Ellerhorst & Co. H. D.	4	5	5 00
Ellerhorst & Co. H. D.	5	5	5 00
Ellerhorst & Co. H. D.	6	2	2 00
Ellerhorst & Co. H. D.	307	18	18 00
Enqvist A.	608	13	13 00
Freeman E.	457	10	10 00
Freeman E.	459	25	25 00
Grisel Mrs. C.	659	15	15 00
Gradowal A.	717	75	75 00
Gradowal A.	718	20	20 00
Gradowal A.	719	20	20 00
Johnston J. H.	126	6	6 00
Johnston J. H.	127	10	10 00
Johnston J. H.	241	10	10 00
Johnston J. H.	512	25	25 00
Johnston J. H.	513	40	40 00
Jacques Daguer.	685	65	65 00
Jacques Daguer.	687	60	60 00
Jacobs S.	705	20	20 00
Jacobs S.	707	20	20 00
Jacobs S.	708	60	60 00
Jacobs S.	709	60	60 00
Jacobs S.	710	30	30 00
Jacobs S.	711	20	20 00
Landry N.	487	15	15 00
Landry N.	488	5	5 00
Landry N.	489	10	10 00
Landry N.	490	10	10 00
Landry N.	491	10	10 00
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Landry N.	599	10	10 00
Landry N.	600	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the said Company, No. 423 Washington street, Room No. 13, up stairs, San Francisco, on the twenty-ninth day of October, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. DICKINSON, Secretary.

Office, 423 Washington street, Room No. 13, San Francisco.

Postponement and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be sent in as early as possible.

Office, 423 Washington street, Room No. 13, San Francisco.

Patent Agency, Bank and Job Printing.

DEWEY & CO., Publishers, (Established, 1860).

CIRCULARS FREE. Subscribers New!

Published Saturdays, containing 16 pages, at \$5 per year.

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

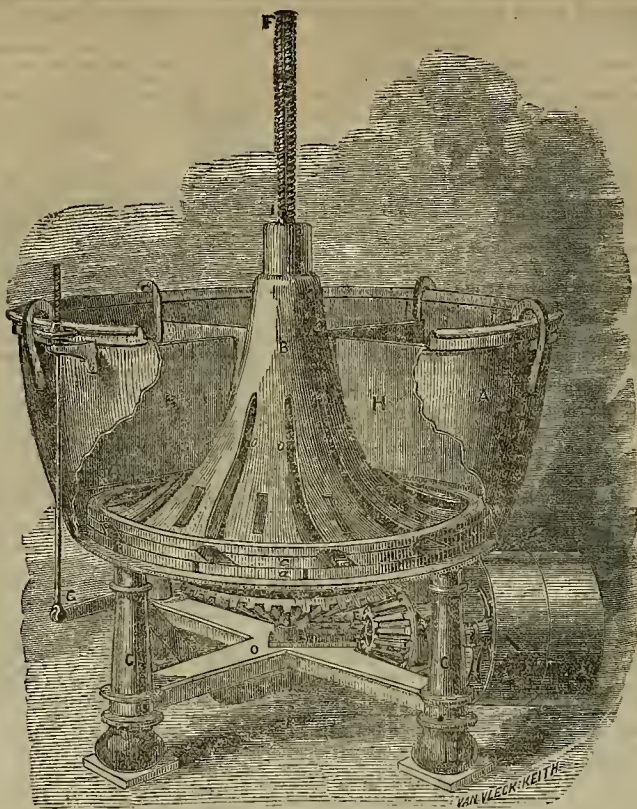
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works.

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



YOUNG MEN WANTED!

Pacific Business College!

51 Market street, between Third and Fourth,
SAN FRANCISCO.

AN INSTITUTION DESIGNED TO PREPARE YOUNG and middle-aged men far an active and successful business life.

BOOK-KEEPING, PENMANSHIP, COMMERCIAL LAW, COMMERCIAL ARITHMETIC, CORRESPONDENCE, MODERN LANGUAGES, Etc.,

Practically taught.

This College forms a link of the

American Chain of Commercial Colleges,

Located in the principal cities of the United States, and is the only institution on the Pacific coast conducted on actual BUSINESS PRINCIPLES.

Regular Banks and Business Offices have been introduced,

By which we are enabled to fit out Students in the BEST POSSIBLE MANNER, and at the LEAST EXPENSE of time and money, for the practical duties of the Counting House.

Students can enter at any time of the year, there being no vacations. Each student receives individual instruction, with the exception of Lectures and other general exercises.

The College Review,

Giving full particulars of the College, can be had FREE, by calling at the College, or addressing

E. P. HEALD,

3v13 President Business College, San Francisco.

The Mercantile Gazette

—AND—

PRICES CURRENT,

E. D. WATERS, Proprietor.

Office, Northeast corner Clay and Battery sts.,
SAN FRANCISCO.

"The Mercantile Gazette and Prices Current" is the only

Commercial Paper

ON THE PACIFIC COAST.

PUBLISHED EVERY STEAMER DAY.

Terms, \$9 per Year, payable in advance.

THE LETTER SHEET PRICES CURRENT

For enclosure in letters, is also published every
STEAMER DAY.

13v131f

Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and its execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for BOOK AND PAMPHLET PRINTING entrusted to the Mining and Scientific Press Job Office.

The Mining Press comes loaded with a rich variety of mining intelligence, and all sorts of scientific interesting matter.—[Amador Ledger.]

Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the

PACIFIC FOUNDRY,

1v1 San Francisco.

LEFFEL'S American Double Turbine

THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to KNAPP & GRANT, —ALSO— San Francisco.

Leffel's Lever Jacks, For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by KNAPP & GRANT, 12v12-3m San Francisco.

PAGE'S PATENT FOR RAISING SUNKEN VESSELS!

SHIPPING AND INSURANCE COMPANIES, AND other parties upon this Coast or in the Atlantic States, having occasion to raise themselves of this invention, which has been tried and proved a success, will please address for the present, JOSEPH DE VINCEY, San Francisco at the office at the Mining and Scientific Press. 8v13

AUSTIN Z. PAGE, Patentee.

To Ditchmen, Millmen and Others Requiring IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for all wells. His tools being portable, pipe can be manufactured on the ground. 19v12

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE

ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent,

At JOB M. SEAMAN & CO'S, 631 WASHINGTON STREET, San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is daily appreciated. The clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the Mining and Scientific Press. 2v13p16-1f

Brodie's Patented Improvements

FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms: Na. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price \$600 No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour. 850 No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour. 1,300 The above Crushers have been recently erected and are now successfully employed at Bear Valley, Marin county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers. A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866. BRODIE & RADCLIFF, Express Building, 402 Montgomery street, San Francisco. 12v131f

REMINGTON'S ARMORY.

Agency, 310 Washington st., San Francisco.

PRICES REDUCED!

These arms have been preferred by the United States Government, and stand unequalled by any in the world. Revolvers, Army, Navy, Belt and Pocket, Double and Single Action, Repeaters, and vest-pocket Pistols with copper ammunition; Police Revolvers, a new model, navy size ball, 4 1/2 to 6 inch barrel; Rifle Guns—an entirely new Arm—having a range and accuracy equal to a rifle, and a most perfect Camo. All the new models for sale very low. 12v131f

ALBERT E. CRANE.

Its correspondents are men of science and learning, and hail from all parts of the coast. It is published at San Francisco, at \$5 per annum, or \$3 for six months. Address Dewey & Co., publishers of Mining Press, San Francisco [Nye County News.]

Union Amalgamator.

This Valuable Invention

ITS FAST FINDING ITS WAY INTO GENERAL USE, NOT by means of combination of capital and influence, but on the strength of its own merits, and upon the principle that what is known to be good will be appreciated. Practical men acknowledge the UNION PAN to be scientific, the best, the cheapest, and most profitable. It now stands first on the list of all pans in use for the purpose of

Working Gold and Silver Ores.

It has been found that a low class of ores, also tellings from Mills, Sulphurets, etc., that will not pay to work with the common pans, may be worked with this and obtain large profits. The UNION PAN is manufactured in two sizes, and capable of operating upon large quantities of ore in the most efficient manner.

Parties interested in Quartz Mining, Mills, etc., will find it to their advantage to call and examine for themselves, and see its operation. Gold and silver ores tested by regular mill process, at moderate cost, by

STRONG & CO.,

San Francisco Foundry, corner Mission and Fremont streets, where orders will receive prompt attention. 15v12-3m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such furnaces, are requested to leave their orders with

T. KALLENBERG,

19v12

416 Market street, San Francisco.

Kerosene and Gas Stoves.

TEA AND COFFEE BOILERS, GLUE POTS, OIL CANS, Etc., etc.

ALL The Cooking for a family may be done with Kerosene Oil or Gas, with less trouble, and at less expense, than by any other fuel.

Each Article manufactured by this Company is guaranteed to perform all that is claimed for it. Send for Circular. LIBERAL DISCOUNT TO THE TRADE.

KEROSENE LAMP HEATER COMPANY, 206 Pearl Street, New York. 6v13-2m

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by THOMAS H. SELEY & CO., 23v12 3m Nos. 116 and 118 California street

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. One to three-ply Hose made. All orders punctually attended to.

S. HOWARD,

326 Davis street, San Francisco.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

114 Beale Street, San Francisco.

23v12 3m

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 3v131f SAN FRANCISCO.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery OF ALL KINDS.

Special attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city. Refer, by permission, to—

Governor F. F. Low; C. T. Meader, Stockton; Geo. K. Gloyas, Chief Engineer of Cal. S. Nav. Co., San Francisco; J. W. Stowe, Russell & Erwin Manufacturing Company; Office, No. 120 Grant street, San Francisco. 4v12

Economy in Advertising.—The MINING and SCIENTIFIC Press is the best and most economical mining advertising medium in this city. Our terms are less than any half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

AN IRON MOUNTAIN IN SWEDEN.

Sweden, which has long produced some of the best iron in the world, has also its "Iron Mountain," as well as America. Indeed, the Iron Mountain of Sweden is both larger and richer than that of Missouri. Its ore yields 72 per cent. of metallic iron, somewhat higher, we believe, than the American iron mountain. The first indication which the traveler has of his approach to this mountain is the fact of the unreliability of his compass, which becomes useless for two or three days before reaching it, over the slowly traveled mountain road. Mr. Gladstone, the English statesman, in describing his visit to the locality, says that upon his party arriving at the foot of the mountain, they "walked for hours and hours upon nothing but masses of iron ore, perfectly bright like steel." We are inclined to think the distinguished traveler must, in the above quoted remark, have slightly exaggerated what he saw; else the climate there must be so very peculiar that its atmosphere will not exert its usual oxidizing influences upon a mineral so sensible to the action of moisture as iron. The mountain is no doubt very similar in appearance to our "Pilot Knob;" but it has the great drawback of being situated in a very high latitude, in Swedish Lapland, some one or two degrees above the head of the Gulf of Bothnia, and just within the Arctic Circle. Measures are being taken, however, to overcome the natural obstacles against the development of this wonderful mineral production, by constructing a railroad to connect it with tide water. In time, no doubt, the Pilot Knob of Sweden will be to the Old World, what the Pilot Knob of Missouri is to the New World. Each can supply its respective continent with all the iron that will be wanted for many centuries to come. Both may be considered as among the great natural wonders of the world.

MINING IN AUSTRALIA.—The returns from the gold fields of Australia for the first six months of the present year, compared with the corresponding period of last year, are stated as follows:

	1876.	1865.
Western Division.....	60,362	75,424
Southern Division.....	43,909	60,686
Northern Division.....	19,032	0,014
Totals.....	114,233	143,124

Showing a decrease this year of 28,801 ounces, equal to \$492,816.

AUCTION HOUSE.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 418 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.

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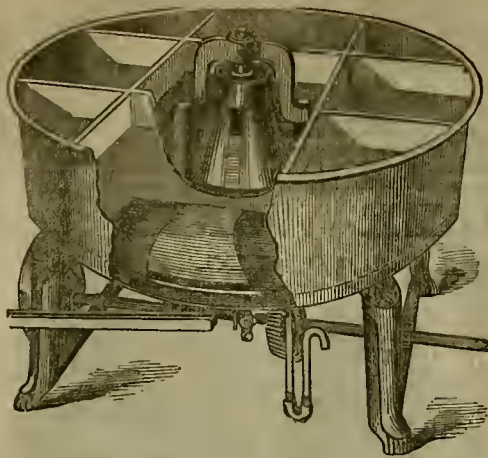
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NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 27th, 1865, to Professor Henry Wurtz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

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THE WURTZ AMALGAMATION COMPANY,

OF NEW YORK,

Assignees of letters patent granted to Prof. Henry Wurtz, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.

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There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

ISRAEL W. KNOX, or
W. A. PALMER, Inventors,

ANNUAL REPORT

—OF THE—
Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 22, 1860, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in GOLD.....\$750,000
II.—The amount of the Assets is ONE MILLION AND FIFTY-ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS. \$1,051,420.37
III.—The Company has NO DEBTS.

IV.—The amount of insurance effected during the year, and which remained in force December 31, 1865:

Marine.....\$12,973,949

This Company commenced underwriting Marine Risks, August 1, 1865.

V.—This Company insures against the following risks, viz.: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE.

Also, on CARGOES, TREASURES, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL MARINE AND LAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reimburse to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

J. HUNT, President.

A. J. RALSTON, Secretary.

San Francisco, January 19, 1866.
Louis McLane, Edward Martin, A. Hayward,
W. C. Ralston, Chas. Mayne, T. L. Barker,
A. L. Tubbs, Moses Ellis, Alex. Vellie,
William Alvord, C. C. Goldstein,
Frederick Billings, Wm. T. Coleman,
Jonathan Hunt, John O. Earl,
A. B. Forbes, Lloyd Tevis,
Anson & Stiles, Geo. W. Beaver,
Abm. Seligman, Adam Grant,
L. B. Beechley, Alpheus Bull,
Wm. Sherman, S. M. Wilson,
L. Sachs, D. J. Oliver,
Jas. De Fremery, William Scholle,
John G. Bray, Morton Cheeseman, J. H. Jewett,
Solm B. Newton, Stockton,
David Stern, D. W. Rice,
D. O. Mills, Oliver Eldridge,
J. G. Kellogg, E. W. Leonard,
G. H. Howard, S. Steinbart,
Moses Heller, P. L. Weaver,
H. M. Newhall, Wm. Hoover,
G. T. Lawton, Alfred Borel.

State of California, City and County of San Francisco, ss. On this nineteenth day of January, A. D. one thousand eight hundred and sixty-six, personally appeared before me, H. S. HOMANS, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. Ralston, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.

Sworn and subscribed to before me, this 19th day of January, A. D. 1866.

5v13-1f H. S. HOMANS, Notary Public.

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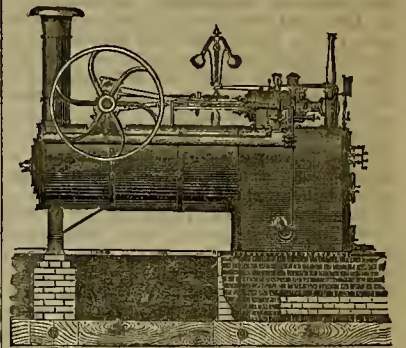
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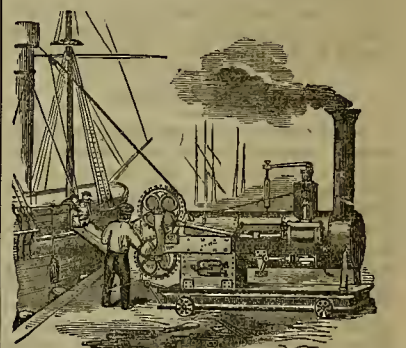
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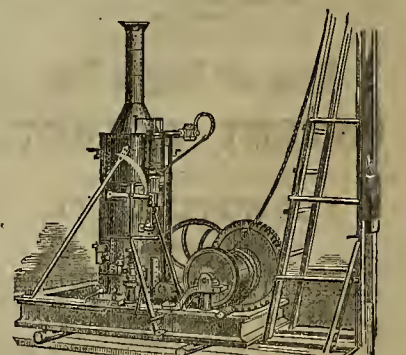
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There is scarcely a tool used in the mechanics' arts of more practical utility than the circular saw. Notwithstanding their high cost and the daily expense incurred in keeping them in order, they are used without limit. Formerly all saws were made by forming solid teeth on the periphery of the plate. Teeth thus made do good work, but are liable to be, and frequently are, broken off. There is no means of restoring them when broken, except by reducing all the other teeth to the same radius.

A patent has recently been allowed to Mr. W. P. Miller, of this city for saw teeth constructed upon an improved plan, which are claimed by the inventor to possess the following advantages over all others: The teeth, being nearly encompassed in the plate, are rendered immeasurably stronger than even solid teeth formed on the plate; for reason of their great stiffness laterally, these saws may be fully one-fourth less in thickness than solid teeth, and one-third less than other insertable teeth saws; these teeth are self-attaching and adjustable in their sockets, thereby differing from any other saw teeth; should the point of one or more of them become broken, by simply turning them forward in their sockets they will attain the necessary projection, then file them and the damage is repaired; these saws remain exactly the same size, and never can get out of round nor balance; these improved teeth are elastic, which insures a perfect fit, and a uniform distension in their sockets under any degree of temperature; ninety-five per cent. of the labor and files required to keep a solid tooth saw in order, or fifty per cent. as compared with other insertable teeth saws, will be saved by the use of these adjustable teeth; they cannot, by any means, be thrown out of their sockets, and hence the operatives are secure from injury; these adjustable teeth will do three times more work before being worn out than other insertable teeth, for the reason that the teeth remaining in order need not be reduced to accommodate those that may be dull or broken; they are alike applicable to circular saws of every size and for all purposes, and are peculiarly adapted for cutting-off saws, as well as for splitting.

The teeth are held firmly in position by friction in a V groove. Letters patent were issued for this invention in September, 1866.

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

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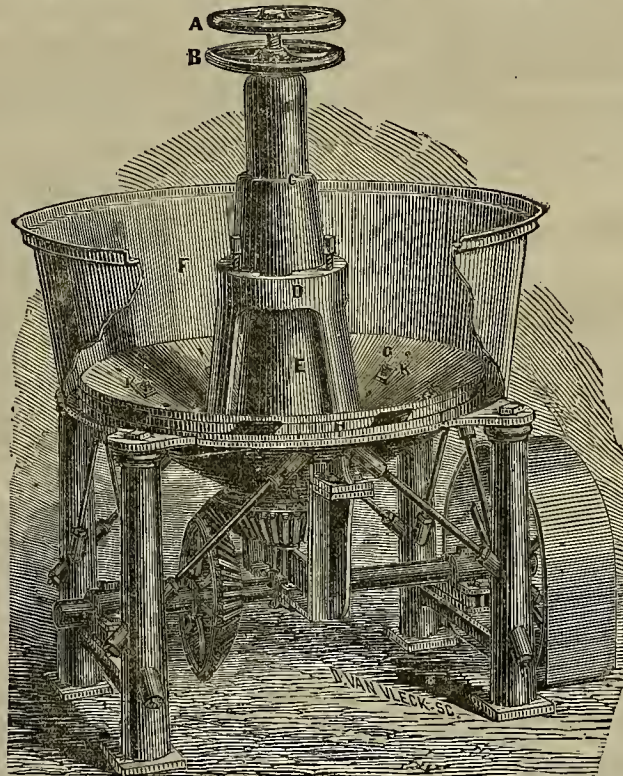
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SAN FRANCISCO, SATURDAY, OCTOBER 20, 1866.

VOLUME XLII.
Number 10

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CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

G. KUSTEL.. of this city, has contributed to our cabinet several very fine specimens of ore from the Chicago and Occidental silver mines, in Shasta county. No. 18, consists chiefly of argentiferous galena.

No. 19, is a piece of white quartz, a portion of which having the drusy appearance of the interior walls of a geode, is a beautiful, fine, spray-like deposit of copper, either the native mineral or the red oxyd, which, it is difficult to determine without a careful examination.

No. 20, is a very rich specimen of *Fahlers*, or zinc-blend and galena, highly argentiferous. Assorted lots of this ore, taken from the depth of fifty feet, are said to pay over \$1,000 to the ton.

No. 21, contains a large amount of pyromorphite, or phosphate of lead, with small crystals of carbonate of lead. This, we believe, is the first instance of the discovery of this mineral in California. Before the blow-pipe, on charcoal, pyromorphite fuses readily, and the globule, on cooling, assumes a polyhedral form, and a dark color which, in the reducing flame, becomes bluish. The mineral derives its name from the form which a globule assumes on cooling. We hope soon to be able to give some particulars with regard to the interesting developments which are being made in the district from which these specimens were received.

FERRY BOAT FOR VALLEJO.—Mr. John Lochhead, at his machine shop, on Beale street, in this city, is building the machinery for a side-wheel and double-oared ferry boat, to ply between Mare Island and Vallejo. The boat is to be seventy feet in length by sixteen feet width of beam, and oared by Mr. Maguire. Her engines will have 16-inch cylinders and 30-inch stroke.

A NEW RAILROAD ROUTE TO THE PACIFIC is talked of. Gen. John C. Fremont is said to be at the head of it. The plan is to connect the line of railroads running through the southern part of Texas, thence to Monterey, with Guaymas, in Mexico.

ILLNESS often accrues for the want of such simple medicines as are contained in Dr. Boynton's medicine chests, advertised in this paper.

RICE & MILLER'S PATENT SELF-LUBRICATING JOURNAL BOXES.

Any device which can be readily attached to a journal, and which shall be self-lubricating, must be a great desideratum. This, it is claimed, is accomplished in the device which we are about to describe. The self-lubricating journal is designed for shafting and many kinds of machinery. In order that its construction and operation may be fully understood, we give the subjoined illustrations.

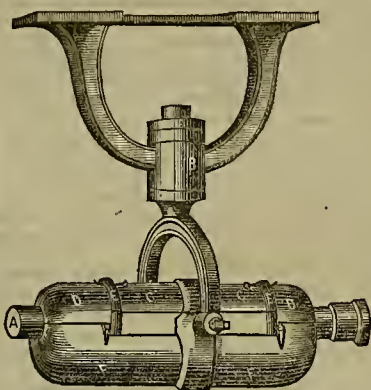


Fig. 1.

A, fig. 1, is a shaft. B, is the hanger. C, C, the cap. D, D, the hoods fitting over the extended ends of the reservoir. E, E, a bead through which slides a pin to fasten on the hoods. F, F, is the reservoir and dipper combined, which is movable from and without disturbance of the box, by taking out four small screws; is easily removed to be cleaned out.



Fig. 2.

Fig. 2, is the box with one hood left off with the shaft withdrawn. A, the extension of the reservoir. B, the inner lower half of bearing surface, showing a portion of the lubricator at the bottom of the box. C, the end of shaft. D, D, the cap. E, E, the bead through which slides the pin to fasten the hoods. F, the hood in position.

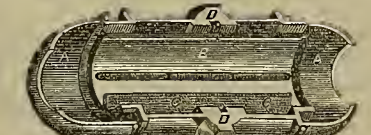


Fig. 3.

Fig. 3, shows the lower half of the box with the reservoir attached. A, A, the extension of the reservoir. B, the bearing surface or Babbit metal. C, C, the lubricator lying on the top of the lower half of the box in a space of one-eighth of an inch between the box and cap. The lubricator is made with tail-pieces leading down through the oil passages made directly through and in the body of the casting to the oil reservoir below, taking the oil up by capillary attraction, and returns the oil up by the opposite side back to the reservoir,

making a continuous circulation. This lubricator can be replaced without disturbance of the shaft or box. The lubricator at the bottom is the one most commonly used, lying in a channel or groove below the bearing surface, laced through small holes and tied underneath. D, D, is the swell around the box in the center to give it proper strength.

The frequent oiling required with journal boxes constructed after the usual manner, the waste of lubricating material, the difficulty of keeping the dust from the same, and the necessary lack of cleanliness involved in their use, are objections familiar to every mechanic. When to these we add the constant danger of the bearings running dry and thereby becoming heated, etc., the advantage of a device which will accomplish what is claimed for the one above illustrated, must be at once appreciated.

By carefully reading the above, it will be seen that this invention consists merely in the peculiar construction and arrangement of the journal box, which constitutes both a bearing and a reservoir, from which just the quantity of oil which may be needed from hour to hour, will be constantly fed directly upon the journal. By this arrangement there must be a large economy in the consumption of oil over the usual style of boxes. It is claimed that circular saws, which make from three to five thousand revolutions per minute, can be as readily and uniformly lubricated by this device, as one that does not exceed fifty revolutions. The inventor and patentee is M. J. Rice, 1,211 Washington street, Boston, Mass. A diploma was awarded for the invention by the Massachusetts Mechanical Association, in September, 1865.

THE GOLD FIELDS OF NEW ZEALAND.—The island of New Zealand seems destined to occupy a prominent position as a gold producing region; indeed, a mighty change, both political and industrial, seems to be in store for it. The sand on its sea shore; the rivers flowing from its interior, and its mountain ranges everywhere seem to abound in gold. The Hokitika diggings, which at last accounts had been worked for a few months only, had already turned out three and a half millions of dollars; \$720,000 had been returned for a single month. At one point the sea beach for miles was one continuous placer, where the miners were reported to be taken out from \$25 to \$100 per week to the man. Gold is found all the way from the sea to snow line on the mountains. The total value of gold exports from New Zealand up to June last is set down at \$38,234,000. The entire area of both these large islands is believed to be auriferous, although but a small portion has as yet been prospected.

IRREPRESSIBLE.—W. T. Garratt, whose brass foundry was pretty much destroyed by the fire at the corner of Market and First streets on Thursday morning of last week, immediately rented another shop at the corner of Mission and Fremont streets, whither he had commenced moving the goods, machinery, etc., saved from the fire, before three o'clock of the next (Friday) afternoon. On Saturday he was "at home" again, and ready to attend to business.

QUICKSILVER PRODUCT.—In our last issue we gave the yield of this New Almaden mine, since January last, at 16,700 flasks of quick-silver, quoting the figures of a cotemporary. Since then the *Mercantile Gazette* has obtained information which justifies the assertion that the yield could not have been less than 30,000 flasks. The following are the receipts per month from the New Idra and the New Almaden combined, since January last:

	Flasks.
January.....	4,524
February.....	3,584
March.....	4,567
April.....	2,536
May.....	2,877
June.....	3,415
July.....	3,830
August.....	3,779
September.....	3,491
Total.....	32,693

This product of the New Idra is inconsiderable. The Reddington Lake Manufactory is producing, we believe, an increase over last year, while the Guadalupe mine is producing but little. Of the yield of these two latter we make no estimate for the past nine months, as their agents in this city have been requested by the large contract buyers to withhold all information on the subject. The present price is sixty cents per pound.

NEW SHIP CANAL PROJECT.—On the 27th of last June, the Congress of Columbia passed an Act in favor of the construction of a ship canal across the Isthmus of Darien and Panama. The enterprise is open to the competition of the world. The privilege is granted for ninety-nine years, and the work is to be completed in ten years. The United States steamer *Waterloo* recently arrived at Panama for the purpose of receiving on board a party of scientific gentlemen who are about to renew the survey of the route. They are to be conveyed to San Miguel, and the vessel is understood to have been placed at their disposal until the survey is either completed or abandoned. The party is said to have been organized under the auspices of a prominent Senator from Rhode Island.

FILE MAKING.—Messrs. Durning and Fisher have recently opened an establishment in this city for file making and re-cutting. They cannot fail to do well. The increasing demand for these indispensable implements which is created by our extensive machine works, will be sure to make their enterprise a profitable one. Thousands of old files which have been thrown aside as worthless will now be re-cut. We understand that there are but few persons in this State who are acquainted with the business of file cutting. The establishment is on Pacific street, between Market and Mission.

PERSONAL.—John Arthur Phillips, Esq., the distinguished English metallurgist, who visited California about a year ago, arrived here by the last steamer, on his second visit to the Pacific coast. He is now in Nevada county, examining some of the rich mining developments in that region. He comes hither, at this time, in the interest of English capitalists. Mr. Phillips is well known among metallurgists and miners as the author of a "Manual of Metallurgy," and several other valuable works on metallurgy and mining.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

From Grass Valley, Nevada County.

WORKING AND TREATMENT OF ORES.

EDITORS PRESS: Much as I have heard of Grass Valley, I was fairly astonished at the extent and flourishing appearance of this town. It is said to be slightly overdone at present, but a short walk among the mines and mills will convince anyone that prosperity here rests upon a solid foundation.

I have been repeatedly assured that the success which has attended mining enterprises here, is in a large measure due to the fact, that all complicated and costly machinery, "processes" and "process men," have been persistently ignored by owners and workers of mines. Certainly the means and appliances for saving gold in most of the mills I have visited, are characterized by extreme simplicity. Wet crushing and amalgamating in the battery, copper plates, blankets, riffles, or ripples of various kinds, "porcupines" and plenty of water are the means most in favor; and these are so multiplied and extended, so many opportunities are afforded the gold to make the acquaintance of mercury, lying in wait in many cunningly-devised recesses and little shining pools, that really it seems not much is left to be desired, so far as free gold is concerned. The plan appears to be, to put through as many tons as possible consistently with saving the greater portion of the gold. The sulphurets are more or less perfectly separated from the tailings by means of rockers, which, though usually operated by machinery, must require a good deal of attention.

No doubt the millmen have done what they thought best for their own interest, and considering the many absurd and impractical machines, and more absurd and impractical processes, which are continually thrust before the mining public by ignorant quacks and twaddling theorists, each of whom asserts that his own particular bantling is the one thing necessary to ensure success, they can scarcely be blamed for giving the cold shoulder to all who assume to teach them their business, whether it be a celebrated professor who will gravely tell them "if you should sink a shaft here, you might strike a large vein, and if it should prove to contain gold, it would be a good thing," as it is related one did, or an enthusiastic vendor of some patent machine, which he desires to hitch on to the tail of your mill in order that it may "prove itself."

Nevertheless, it is an indisputable fact that a very large quantity of gold is daily lost; and now that many of the mines are paying so largely that their owners can afford to expend a few dollars in experimenting, it would be well to give some attention to the means by which a portion of this loss may be avoided. As matters go, the mines are being in a great measure wasted. True they, at least many of them, pay their owners well; but they would do so none the less by a more careful system of working, and great good to the public would result.

I heard a millman say, "I would not spend five dollars to get five!" I think he is wrong. If a man, by a day's work, can produce what that day's work is worth, somebody is benefited thereby. But I believe many would go further, and would not spend four dollars and a half to get five. The millmen know they are losing gold, but I believe if they had any idea how much they lose, they would exert themselves to do better work. I can point to a mill which is supposed to be, and doubtless is, doing as good work as any, this tailings from which, after extracting as nearly as possible all the sulphurets, contain from \$12 to \$20 per ton in gold! Many mines are worked with profit, the ores of which are less rich. The gold is locked up in the grains of quartz, and is therefore not "free," but would be if those particles were reduced to fine powder. A Mexican would laugh to scorn the "beneficia-

tor" who should allow his metal to pass from his hands in so coarse a state as is here seen.

One large mill here has a very efficient set of grinders, through which the pulp from the battery passes, and then they go to the other extreme, supposing that fine grinding is all that is needed to extract gold from sulphuret, as well as quartz, which is a great mistake, notwithstanding I know of several persons who maintain the theory. Pulverization will extract gold from quartz, and should be carried just so far as it will pay; but no amount of simple trituration will get it out of sulphurets.

I have said that the sulphurets are saved from the tailings by washing on common rockers. The process is quite imperfect. I have taken a cup full of water from the ravine, hundreds of yards from whence it came, and after passing several sets of rockers, it was almost clear; yet held in suspension numberless particles of sulphurets, which I collected and treated with acid, when the fine gold became plainly visible. Here comes in a fact which, though well known to English tin-washers, is little acted on here. Finely divided sulphurets cannot be saved in washing coarse sand. The effect of size and form, in a current of water, counteracts that of specific gravity. This matter must be divided into different grades of fineness before washing, and then the concentration can be effected better and cheaper, by some of the machines in the market, than by these old fashioned rockers.

The sulphurets saved are either sold to the Swansea agents, or worked at so much per ton by local "sulphuret men," who treat them by Plattner's chlorine process, which, by the way, some of them have facetiously pretended was a patent process of their own. These gentlemen have of late been sorely puzzled by the discovery that the sulphurets of a certain mine could not be treated successfully in that way, and many were the conjectures as to the cause thereof. Some said lead, and as a remedy prescribed sulphuric acid; others thought lime was to blame, but examination failed to show the presence of either. Probably the gold in these sulphurets is too coarse to be profitably so treated. As they are quite rich, I would suggest smelting as being worth a trial. In the residues from some sulphuret works I have been able to see gold by the aid of a pretty good lens, and a sample of a large pile gave, by fire assay, \$23 in gold to the ton.

The Pacific Ore Company is experimenting on Hagan's method of desulphurizing ore before crushing, in which decomposed steam is the accredited agent. If successful the process will be invaluable, as it will enable the extraction of nearly the whole of the gold by simple amalgamation, while the gangue will be so softened as to almost double the effective working power of machinery, thus opening the way to that fine grinding which is so necessary, while avoiding, or at least abridging greatly, the tedious treatment of the sulphurets. It is thought that the extra cost of this treatment will not exceed two dollars per ton. I am watching the result of the experiment, and will inform you of it.

I have been very much surprised in reading late numbers of the Press, to find that it was not generally known to the miners of California and Nevada that gold and silver were to be found in connexion with carbonate of lime.

In the State of Sonora, Mexico, calcareous gangues are very common, and in the district of San Antonio, Lower California, I have worked ores from a dozen different silver mines, in almost all of which lime is the predominating constituent of the veinstone. Manganese also is nearly always present. I have seen a piece of hornblende from Arizona which was full of bright spangles of gold. It had been brought as tin ore.

The nature of the gangue is an important consideration in the treatment of ores.

CHARLES H. AARON.

Grass Valley, Cal., Oct. 9, 1866.

THE Calaveras Chronicle gives the following account of an explosion which occurred in the claim of Squires & Co. last week:

A shaft 160 feet in depth has been sunk on the claim, and a tunnel 250 feet in length run from the bottom of it. On Tuesday the workmen broke through into a drift which was run a number of years ago, the mouth of which had caved down so as to be air tight. Desiring to examine the old diggings, one of the men held his candle to the orifice between the drifts, when the gas or foul air which had been so long confined, exploded with such force as to knock the men senseless, burning their woolen shirts to a crisp, and blowing the roof off the shed over the whim, although it was 410 feet distant. The men were terribly burned and otherwise injured, but it is thought they will recover.

A HUMAN red blood globule measures something less than the 1-5,000th part of an inch. One-fourth of this globule will give a distinct characteristic line in the micro-spectroscope.

SODIUM AMALGAM—FURTHER EXPERIMENTS.

This American Journal of Mining gives some further extracts from the papers read by Professor Wurtz, before the Buffalo meeting of the American Association for the advancement of Science.

The following letter from Prof. Silliman, relating to trials on a working scale, instituted under his advice and direction, at some mills in this State and Nevada, was submitted to the Association:

NEW HAVEN, Feb. 27, 1866.

PROF. HENRY WURTZ: Dear Sir—I have received advices under date of January 17 and 27, 1866, from Dr. Fisher, in Grass Valley, California, the gentleman I requested to put to the test your new sodium, and find therein the following passages bearing upon your inventions: Under date of Jan. 17th:—"Upon applying No. 1 amalgam directly to the clean copper plates, they amalgamate easily and retain their coating better than when coated in the ordinary manner. There were cleaned up after six days' run, from the plates coated with magnetic quicksilver, 15 dwts of amalgam, while the five plates coated in the usual manner cleaned up but 13½ dwts. The plates were of the same size, had never been used before, and were coated at the same time. They were placed side by side in two slices, each fed from the same battery, and in all respects the conditions were made as nearly alike as possible. As I advised you in my last, the 'Eureka Mill,' for any other in which the 'blanket process' is employed, cannot give the sodium amalgam a fair test so far as its value in saving gold on an incline is concerned; for ninety per cent. of the total gold saved is detained by the blankets. * * * Parties have been experimenting in Nevada for some time past with sodium. At the Gould & Curry mill, they tried sodium amalgam in the Hepburn pan (1,000 lbs. charges of ore) with very satisfactory results. After running six hours at a temperature of 150°, the contents of the pan were run off, and the yield of silver was ten per cent. greater than when operating as usual. Mr. Attwood tells me that his son, amalgamator at the Ophir mill in Virginia City, has obtained still better results with the Freiberg barrel." * * * Under date of January 27, 1866: "It seems to me that the great value of sodium will prove to be in pans and barrels and on copper plates. Last week, in my experiments at Eureka, the gold amalgam from the plates coated with sodium amalgam weighed seventy per cent. more than that from plates coated in the usual way. * * * (Signed) 'Yours truly, B. SILLIMAN.'"

The following is the substance, greatly condensed, of a report by Dr. John Torrey, of experiments upon ore from the "Moss Lode," Arizona:

U. S. ASSAY OFFICE, N. Y.,

February 28, 1866.

PROF. H. WURTZ: We herewith send you the results of our experiments on the comparative value of the new method of amalgamation invented by you, and the old method with ordinary mercury. The ore operated on assayed: Gold, per ton (2,000 lbs.) \$1,072.00; silver, \$30.

First Experiment—A quantity operated on by amalgamation in the ordinary way, and the slime treated laboriously for sixty minutes to collect the gold amalgam yielded: fine gold, per ton \$470; equal to forty-five per cent. of the fire assay.

Second Experiment—Another equal quantity, all else the same, except the sodium amalgam, was used, forty minutes only being occupied in separating the gold amalgam from the slimes, gave: fine gold, per ton, \$817.50; equal to seventy-eight per cent. of the fire assay.

Third Experiment—The tailings, from the first experiment (much having been lost, however), amalgamated with the aid of sodium, yielded: fine gold, per ton, \$134, or fourteen per cent. additional of the fire assay. These results, and not a few others of a similar kind, show, conclusively, the efficacy of your new mode of amalgamation, and its great superiority over the usual method in which ordinary quicksilver is used. Yours respectfully,

JOHN TORREY.

A GOOD EXAMPLE.—The Plumas National states that in addition to the premium of \$50 offered by Mr. J. R. Buckbee for the best cabinet of minerals at the next County Fair, Mr. W. A. Bollinger and Messrs. Prescott & Scheidel will give \$25 each for the same purpose. These liberal offers make a total premium for minerals of \$100, and will doubtless awaken a lively competition for the prize.

If a few citizens in each county would "go and do likewise," the effect would be felt upon the business of that county; for in this way they would sooner become acquainted with their own mineral resources.

Improvements in Mining Machinery.

It is generally conceded that the great bulk of the supply of gold to be furnished to the markets of the world, must, henceforth, be obtained by the crushing and working of quartz. The quantity obtained from the placer mines, at present, does not equal that collected by the quartz mills, and this disproportion is constantly increasing, as mills increase in number and the placer mines are being worked out. Improvements in the machinery and processes for the extraction of gold from quartz are consequently subjects of general interest. There is no other branch of the national industry in which so much ill-directed effort has been devoted as in the construction of machinery for crushing quartz and saving the gold. Till quite recently, theory was the rule and practical knowledge the exception among the inventors of such machines. Millions of dollars and years of valuable time have been wasted in operating with such, worse than useless machinery. It is an undeniable and most important fact, that since the discovery of gold on this coast, more than one half as much of the precious metals has been wasted, for want of proper means to save it, than has been collected, while the greater portion of the quantity saved, has been expended in useless machinery and profitless labor. It is this state of affairs that has caused such a general indisposition among capitalists to embark in quartz mining. The costs incurred in obtaining the gold, in too many cases, being more than it was worth. But, when the machinery in our quartz mills, like that in our factories and workshops, shall be applied to saving labor as well as gold, so that the cost of extracting the metal shall not so frequently exceed the value of the product, capitalists will be as anxious to obtain interests in quartz mines as they now are to keep out of them.

Among the most important, because it is the most useful machine in operation at Rawhide Ranch, Tuolumne county, is one of Brodie's quartz crushers—a very compact, simple-working little affair, which stands on the platform in front of the batteries, where the teams dump the rock as it comes from the mine. With the aid of one man, this little machine can daily crush, to the fineness of peas or rice, sufficient rock to supply four ten-stamp batteries, thus performing more than half the work of the stamps, and saving half their wear and tear, and consequently saving more than half the cost of crushing the rock. This powerful machine is set in motion by a belt connecting it with the cam shaft, and as it requires but little power to keep it in motion, its services cost but little.

The Brodie Crusher, though constructed on somewhat similar principles to the machine introduced by Blake, several years ago, is altogether different in its operations. In this machine the power is applied direct to the movable jaw, by means of an eccentric and what is termed a radius bar, which imparts a grinding as well as a crushing motion that the hardest rocks cannot resist. There are no springs, toggles, or slender bolts about it, as there are about other crushers, consequently it is not as liable to get out of repair. It is the simplest machine in construction imaginable, and one that does not require an engineer to keep it in order. This machine, capable of thus performing half of the work of a forty-stamp mill, only costs about \$1,200. It is very portable, the largest piece in it only weighing 350 pounds; the total weight not exceeding 6,000 pounds.

It requires no argument to convince any business man in charge of a quartz mill, that whatever reduces the cost of extracting the gold, increases the profits of the owners of the mine. If a machine costing \$1,200 will break more rock in one day than six men, such a machine will not be long in paying for itself, if it did nothing more than break the rock as the men do. But, if by crushing the rock to a uniform size, it enables the stamps in the batteries to always fall on an even surface, and thus operate with more uniform effect in crushing, as well as prevents the breaking of shoes and dies, by leaving no large pieces of hard rock in the battery for the stamps to fall on unevenly. Such a machine must commend itself to every superintendent of a quartz mine who understands his business. Precisely such a machine is Brodie's Quartz Crusher, to which we call the attention of every one who takes an interest in the improvement of mining machinery.—Daily American Flag.

GOLD IN NEW HAMPSHIRE.—Arrangements for working the gold mines near Lisbon, N. H., in a scientific manner, and on an extensive scale, are nearly completed, and it is intended that stamping mills shall be in operation by the first of October. Three companies have been formed, most of the stock of which is owned in New York and Boston, by natives of New Hampshire. Several old miners have been at work at the mines for some time, and are meeting with such success that the most extravagant expectations are indulged of the ultimate yield when all the requisite machinery is in operation.—Cor. Bulletin.

Mechanical.

ELECTRICITY AS A MOTIVE POWER.

A large amount of attention is being devoted at the present time to efforts for rendering electricity economically available as a motive power. Gen. Count de Molin, an Italian nobleman, has recently constructed and put in operation a small puddle-wheel boat, which he calls *L'Electricité*. He employs sixteen of Bunsen's elements to obtain his propelling power, which, by careful measurement, has been found to be equal to one man power. The paddle-wheels are two and a half feet in diameter. If we are not mistaken, we have an electro-magnetic engine in this city that will accomplish more work with less expense of material.

Mr. C. L. Stewart, of Philadelphia, recently exhibited, at the rooms of the Free Academy of New York, in the presence of a number of scientific gentlemen and prominent mechanics, an electro-magnetic motor, of quite a novel construction, which the gentlemen present considered very promising. Mr. Stewart does not yet claim to have perfected his invention. The relative cost of the power of this machine as compared with steam, had not been fully ascertained. The *Philadelphia Mining Journal*, in noticing the exhibition of this machine, says that Professor Doremus, of the Free Academy, gave some very interesting explanations and illustrations of the power of electricity, previous to the explanation of Mr. Stewart's apparatus, and expressed the opinion that, with a suitable apparatus, electric power may be produced cheaper than steam power. Aside from the question of cost, there are other manifest advantages on the side of electricity. It is constantly and instantaneously ready for use; it produces neither smoke, flame, nor noxious gases; it is perfectly clean; it involves no danger from fire; it is entirely safe; it is noiseless. Should Mr. Stewart succeed in perfecting his apparatus, it might be advantageously substituted for horse-power in the propulsion of street cars, and, in fact, for nearly all vehicles. Especially on a subterranean road such a motive power would be invaluable. Mr. Stewart intends soon to make a public trial of his apparatus upon one of the city railroads.

A NEW CEMENT.—A late number of the *London Engineer* announces a new cement of great value, which is introduced under the euphonious title of "The Zopissa Iron Cement," which, it is claimed, is capable of joining any two solid substances, however dissimilar. Wood, brick, iron, stone, or glass, can be inseparably united with great facility. A series of experiments, witnessed by the *Engineer*, gave the following results: "Plates of glass were firmly joined, edge to edge; ordinary bottles stuck upon the wall resisted all attempts at separation till the stone yielded. Champagne bottles, cemented bottom to bottom, sustained a weight of two hundred and fifty pounds. Two bricks remained joined under a tension of three hundred and twenty-five pounds, till the brick itself fractured, but the cement remained firm. Brickwork cemented with this has the solidity of a granite slab. With paper treated with this preparation in solution, the inventor has made air and water-tight tubes, ammunition cases, coffins, and even constructed a house, one story and a half in height, perfectly wind and water-tight, which he now has on exhibition." Of the constitution of this cement, or the expense of manufacturing it, the *Engineer* makes no intimations.

A NEW ALLOY.—M. M. H. Micolon, of Paris, proposes a new alloy for the manufacture of such metal articles as bells, hammers, anvils, rails, and non-cutting tools. The alloy consists of twenty parts of iron turnings or tin-waste, eighty parts of steel, four parts of manganese, and four parts of borax; but these proportions may be varied. When it is desired to increase the tenacity of the alloy, two or three parts of wolfram are added. When the cupola is ready, the iron and steel are poured in, then the manganese and borax, and the vessel is filled up with coke.

THE HARRISON STEAM BOILER.

The Harrison boiler, according to the American *Artisan*, is now being quite extensively introduced into use, and a large establishment has been erected in Philadelphia for its manufacture. The different departments in this establishment are so arranged, that the manufacture is commenced at one end and proceeded with through its successive stages until the boiler is completed at the other; the iron received by railroad entering on the track through one door, and passing on through the works, without once returning until it leaves the other extremity in the form of boilers ready made for erection. Six tons of castings are said to be made up daily into boilers, and sent away to fill up orders, which are constantly increasing. This is indicative of quite an extensive demand.

Why is it that this boiler has not been brought into use here? On the score of economy and safety, it would be far superior to the ordinary wrought iron boiler. At least one of these boilers has been set up in this city; but we understand that it could not be made to work; for what reason we are not definitely informed. Our impression, however, is, that the unequal expansion of the joints and fastenings caused the boiler to leak so badly that it could not be used. The joints, as used in the instance referred to, were faced with intervening washers of wrought iron, and the whole screwed up tightly on longitudinal rods of wrought iron. We perceive, by the account referred to in the *Artisan*, that the sections are now put together, in Philadelphia, by male and female joints, which are so carefully turned and fitted by machinery that they are absolutely steam-tight, by mere contact of the faces of the metal. By this method the joints are also interchangeable, so that any one section may be fitted to another without alteration.

If this boiler can be made to work, why might it not be advantageously adopted upon steamships and river steamers, and more especially where high-pressure steamers are used? Two hundred pounds of steam can be carried on one of these boilers with more safety than eighty or one hundred pounds on boilers of ordinary construction; and no serious injury could arise from an explosion, as it could rarely occur that more than one or two sections could explode at once, which even then would cause scarcely any more damage than the bursting of a tube in a tubular boiler. It may, perhaps, be well for some of our enterprising mechanics to look into this matter, and see if something practicable cannot be found in it.

We notice that Messrs. Jas. Harrison and Thomas L. Saders have patented, in England, a modification of the Harrison boiler, which consists in casting together a slab, of forty spheres, united by nicks, instead of making such a slab of "units" of four spheres each, held together by bolts. Thus, numerous joints are avoided. The reason for the above change in construction is given as follows: "It appears that when the priming has been violent these joints have leaked." Our impression is that the "joints" above referred to are the face joints first used, and are not the male and female joints now employed in Philadelphia manufacture, which have only been in general use a little over one year.

A HARD CEMENT.—Take iron sponge, triturate finely and mix with sand, moistened with a weak solution of muriatic acid. The iron is oxydized by acidulated water, and the siliceous forms with the oxyd a silicate of iron, which possesses great tenacity, and is not affected by atmospheric changes, or by acid or alkaline liquids of a boiling temperature. This cement will unite, into a solid mass, stones, pebbles, etc., forming conglomerates impervious to moisture, and capable of being moulded into statues, bas-reliefs, etc. This process is simply an imitation of a process of nature, which is sometimes carried on upon a large scale, in the formation of some of the hardest rocks.

THE MINERAL wealth of England has nearly doubled within the last five years.

Scientific Miscellany.

LATE RESEARCHES ON METALS.

Although science and the knowledge of metals has made steady and most wonderful progress during the past fifty years, still it is evident that, in the study of metals and their alloys, there is much more to be learned than has hitherto been made known. Scarcely a month passes without the announcement of the discovery of some new property in some one of the ordinary metals, or some important fact connected with improvements in their manufacture. It has long been known that light is transmitted through very thin sheets of nearly all the metals; but it has only quite recently been demonstrated that light travels through gold and silver more rapidly than through a vacuum.

The porosity of metals at a high temperature is also a late discovery. It is but a short time since Deville published some very interesting papers on this subject. His experiments enabled him to show that even platinum, when highly heated, is permeable to gases. The existence of this fact is especially important to persons engaged in the manufacture of coal gas, where iron retorts are used for distilling the coal. So complete is the permeability of iron at a high red heat that an iron tube filled with hydrogen, and heated to that degree, will lose all trace of that gas in a few hours. This fact is important to chemists; but more especially important is the discovery that platinum is also permeable, for that metal has heretofore been employed in the laboratory under the conviction that its high density and mode of manufacture completely destroyed its porosity.

It is only quite recently that it has been found possible to procure absolutely pure metals of any kind, or rather that we have learned that the metals previously considered, pure were not so. We have already, in previous numbers, alluded to the extreme difficulty of obtaining pure iron; but few, even among scientific men, have ever seen iron in such a condition. Pure iron is a white metal, so soft that it can readily be cut with a knife. The changes produced in iron by the presence of even the most minute proportions of impurities, is wonderful—more marked than in any other metal; hence its adaptability to such a variety of purposes in the arts.

Staas, in his experimental researches, has spent months of time to produce even a very minute quantity of absolutely pure silver, lead, etc. Pure silver, or even iron, are worth much more than their weight in gold. Pure copper is not quite so difficult of attainment, and the smallest possible impurity can be more readily detected in this than in any other metal. This is done by means of the galvanometer. Perfectly pure copper, when presented to the magnet of a very delicately constructed galvanometer, will be slightly repellant to the needle; while if even one 50-000th part of iron be present in the copper, the needle will be sensibly attracted by it.

It has only recently been discovered that the hardening of steel has great influence on its degree of expansibility. Harden a steel bar to its maximum, and it will expand to a degree which may be represented by 84; the same piece of steel rendered as soft as possible, will only expand to 62. The knowledge of this peculiarity may be made serviceable in various ways in the arts.

While the action of sea-water on steel is 29.16, and on copper 13.85, the same action on tin is represented by 1.45, and on lead by nothing, or at most but the merest trace. This fact, and others of the same class, have recently been applied to the protection of the bottoms of iron and iron-plated ships.

Most important discoveries are reported in alloys of aluminum, by which it is rendered quite flexible and exceedingly tough; but little, however, is as yet positively known with regard them. It is known, however, that aluminum produces most important modifications in steel and iron.

Among the latest discoveries announced in

this direction, is the reported process of hardening copper by the admixture of silica, forming a silicated copper. This invention has been made by Mr. Dismors, of Sandusky, Ohio, who has taken out a patent for the same. It is claimed that all necessity for oiling journals composed of this material is obviated. The Columbus and Cincinnati railroad company, it is reported, is now experimenting with it, and if found successful, propose to give the inventor \$10,000 merely for its use on their road. The New York *Stockholder*, speaking of this invention, remarks as follows:

The value of the Ohio discovery, which has been so highly appreciated by the railway company mentioned, consists in its use as an anti-friction substance—as a bearing for shafts which revolve with great rapidity, for instance, railway car axles. A substance which will form a journal, and stand, without heating to any degree approximating fusion, the swift revolution of the shaft, is a great desideratum, not only for railroad use, but in machinery generally. We do not see that it is impossible for art to make siliceous in combination with a fusible metal serve this end. The New York Central road is using antimony for the bearings of its car axles, etc., and finds that they need quite infrequent lubrication. Everybody at all conversant with steam machinery, is alive to the annoyance and dangers resulting from the heating of journals, and an invention which promises so much as the Ohio one mentioned should be cherished and tested till its value or want of value be fully proved.

A CHEAP AND INCOMBUSTIBLE WASH.—Pine shingles, and other rough, unpainted wood-work, often becomes covered, during our California winters, with a fine, short moss, which, in the long, dry seasons which follow, is almost as easily ignited as "punk;" and a spark from a cigar or chimney, falling upon such dry moss, will often kindle a flame and put a building in a blaze. Now, a cheap and incombustible wash may be made with which to cover such work, which will not only protect the wood from the formation of the moss, which causes the rapid decay of the wood, but which will also afford a most efficient protection from fire, under ordinary circumstances of exposure to great heat and numerous sparks.

Take a sufficient quantity of good stone lime and slack it carefully in a closed box, to prevent, as far as possible, the escape of steam; after it is thoroughly slacked, pass it through a fine sieve. To every six quarts of this slacked lime, add one quart of coarse salt, and one gallon of water. The mixture should then be boiled and skimmed clean; and to every five gallons thereof, add, by slow degrees, three-fourths of a pound of potash and four quarts of very fine sand—the finer the better. Coloring matter may be added, according to fancy. Apply with a common paint-brush. This wash, if the sand be ground very fine, looks equally as well as ordinary paint, and is far more durable, besides being incombustible. It forms a hard cement, and as such will stop cracks in a roof or elsewhere. No moss will ever gather upon such a wash. It can find nothing to feed upon; and wood so protected will never decay from the surface. Two good coatings applied to bricks, will render them utterly impervious to moisture. The expense is a mere trifle. It is said that boards put upon a building, without planing, if coated with this wash, will endure much longer than if planed and covered with ordinary paint. Every farmer should cover his out-buildings and all board fences with this wash. All the outside wood-work about steam mills of every character, both roof and sides, should be covered with some incombustible and preservative wash.

METEORS.—Every one has seen meteors shoot blazing across the sky at night. An astronomer has reported the passage of an unburned meteor, which he supposes was outside the limit of the earth's atmosphere. It was a dark body moving with immense rapidity, and visible only by coming between himself and the moon. Meteors owe their brilliancy to the heat generated by friction in their passage through the atmosphere. A meteor outside of the atmosphere is a dark object, except upon that side which is turned towards the sun, when it would shine if large enough to reach our vision, with reflected light, like the moon. Such a body passing across the disk of the full moon, could be very distinctly seen.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, October 13.

3 shs Savage at 1210 per foot.
 3 shs Savage at 1200 per foot, b 3.
 1 sh Savage at 1205 per foot, a 30.
 1 sh Savage at 1200 per foot, s 3.
 1 sh Savage at 1200 per foot, s 3.
 9 shs Belcher at 75¢ per foot.
 3 shs Yellow Jacket at 720¢735 per ft s 3.
 12 shs Yellow Jacket at 720¢740 per foot.
 4 shs Yellow Jacket at 730¢740 per ft, a 10.
 1 sh Yellow Jacket at 740 per foot, b 30.
 5 shs Chollar-Potosi at 112½ per foot.
 5 shs Chollar-Potosi at 112½ per foot s 3.
 5 shs Chollar-Potosi at 110 per foot, s 3.
 4 shs Gould & Curry at 500 per foot, b 30.
 2 shs Imperial at 76 per share.
 5 shs Imperial at 77 per share, s 30.
 10 shs Imperial at 80 per share, b 30.
 1 shs Confidence at 60 per share.
 2 shs Confidence at 47½ per share s 3.
 5 shs Confidence at 48 per share, s 10.
 10 shs Confidence at 45 per share, s 5.
 35 shs Overman at 11¼¢10¼¢ per foot.
 20 shs Overman at 10¼¢ per share, s 10.
 60 shs Spring Valley W W at 58½¢ per sh.
 10 shs Spring Valley W W Co at 58½¢ s 3.
 10 shs Spring Valley W W Co at 58½¢ s 3.
 \$5000 Legal Tender Notes at 70½¢.
 \$2,000 Legal Tender Notes at 70½¢ s 3.
 Amount of sales.....\$ 45,353 00

Monday, October 15.

24 shs Ophir at 150 per foot.
 24 shs Ophir at 147½ per foot.
 12 shs Ophir at 145 per foot, b 3.
 5 shs Ophir at 145 per foot.
 60 shs Ophir at 143 per foot s 3.
 1 shs Savage at 120 per foot, s 30.
 1 sh Savage at 1200 per foot.
 5 shs Chollar-Potosi at 107½ per foot.
 5 shs Chollar-Potosi at 109 per foot.
 3 shs Chollar-Potosi at 110 per foot, s 3.
 5 shs Chollar-Potosi at 107 per foot.
 8 shs Chollar-Potosi at 107½ per foot, s 3.
 10 shs Chollar-Potosi at 118 per foot.
 6 shs Chollar-Potosi at 108 per foot s 3.
 4 shs Crown Point at 1000 per foot, b 30.
 1 sh Yellow Jacket at 650 per foot b 30.
 2 shs Yellow Jacket at 650 per foot s 30.
 1 shs Yellow Jacket at 645 per foot s 30.
 9 shs Yellow Jacket at 650 per foot s 3.
 1 sh Yellow Jacket at 645 per foot, s 30.
 1 sh Yellow Jacket at 650 per foot b 3.
 1 sh Yellow Jacket at 679 per ft., b 30.
 1 sh Yellow Jacket at 679 per foot, b 3.
 3 shs Yellow Jacket at 655 per foot s 3.
 3 shs Empire M & M Co. at 75 per share.
 1 sh Empire M & M Co. at 77½ per sh s 3.
 5 shs Confidence at 47½ per share.
 5 shs Overman at 10½ per share.
 15 shs Overman at 10½ per share.
 10 shs Overman at 10 per share.
 10 shs Overman at 9½ per share, s 3.
 10 shs Overman at 9½ per share, s 5.
 30 shs Overman at 9½ per share.
 10 shs Sierra Nevada at 1½ per share.
 54 shs Spring Valley W W, at 58½¢ per cent
 2 shs Cal Nev Steam Nav Co at 69 per ct.
 \$2,000 Legal Tender Notes at 70½¢.
 \$2,000 U S 7-30, Aug. issue, at 73½¢.
 \$7,500 U S 7-30 Bonds, June at 74½¢.
 \$90,570 U. S. 7-30 Bonds, June at 74½¢74½¢.

AFTERNOON SESSION.

8 shs Chollar-Potosi at 108 per foot.
 2 shs Chollar-Potosi at 103½ per foot s 3.
 2 shs Chollar-Potosi at 109 per foot, b 3.
 20 shs Chollar-Potosi at 109 per foot.
 4 shs Crown Point at 975 per foot, s 3.
 4 shs Crown Point at 990 per foot.
 4 shs Crown Point at 1000 per foot, b 3.
 8 shs Crown Point at 1015 per ft, b 30.
 2 shs Gould & Curry at 475 per foot.
 2 shs Gould & Curry at 450 per foot.
 35 shs Ophir at 140 per foot.
 6 shs Belcher at 70 per foot.
 1 sh Belcher at 67½ per foot s 3.
 1 sh Yellow Jacket at 670 per foot b 3.
 1 sh Yellow Jacket at 650 per foot, s 30.
 1 sh Yellow Jacket at 655 per foot.
 1 sh Yellow Jacket at 660 per foot b 3.
 2 shs Yellow Jacket at 660 per foot.
 5 shs Imperial at 79 per share.
 30 shs Imperial at 82 per share, b 30.
 30 shs Overman at 9 per share.
 5 shs Overman at 8½ per share.
 15 shs Overman at 8½ per share, s 3.
 5 shs Confidence at 47 per share, s 30.
 10 shs Confidence at 46 per share, s 30.
 10 shs Bullion at 2½ per share.
 5 shs Belcher at 2 per foot.
 5 shs Bullion, at 2 per share, s 10.
 \$5,000 Legal Tender Notes at 70½¢.
 \$2,000 Legal Tender Notes at 70½¢ s 3.
 Amount of sales.....\$125,321 25

Tuesday, October 16.

28 shs Crown Point at 1000 per foot.
 4 shs Crown Point at 1000 per foot s 3.
 4 shs Crown Point at 1005 per foot.
 4 shs Gould & Curry at 400 per foot, s 30.
 3 shs Gould & Curry at 405 per foot.
 4 shs Gould & Curry at 410 per foot, b 3.
 4 shs Gould & Curry at 410 per foot.
 2 shs Yellow Jacket at 650 per foot s 3.
 1 sh Yellow Jacket at 645 per foot s 30.
 1 sh Yellow Jacket at 645 per foot.
 1 sh Yellow Jacket at 667 per foot s 3.
 2 shs Yellow Jacket at 655 per foot, b 30.
 10 shs Yellow Jacket at 645 per foot s 30.
 1 sh Yellow Jacket at 625 per foot b 2.
 3 shs Yellow Jacket at 630 per foot.
 2 shs Yellow Jacket at 630 per foot s 30.
 1 sh Yellow Jacket at 632½ per foot.
 5 shs Chollar-Potosi at 108 per foot, s 3.
 5 shs Chollar-Potosi at 108 per foot.
 10 shs Chollar-Potosi at 107 per foot, s 3.
 5 shs Chollar-Potosi at 106 per foot, s 3.
 10 shs Chollar-Potosi at 110 per foot b 30.
 1 sh Belcher at 60 per foot.
 12 shs Belcher at 60 per foot s 3.
 8 shs Belcher at 60 per foot s 3.
 12 shs Ophir at 115 per foot

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, October 20th, 1866.

There is no perceptible abatement in the demand for money, and bankers and others are enabled to employ their available funds without any difficulty at current rates. Discounts in Bank upon first-class paper and other acceptable securities are made at 1@1¼ ¢ cent. per month, but no inconsiderable proportion of the business going is in the shape of renewals. The Savings and Loan Societies are loaning at 1¼ ¢ cent. per month, with large offerings at that rate.

Receipts of treasure from domestic sources continue up to the usual average, and thus far during the current month have amounted to \$2,650,000. A further shipment of \$500,000 on Government account was made by the last steamer, amounting in all to \$9,000,000 since January 1st.

Gold bars may be quoted at 830@840, and Silver is selling at 1@1¼ ¢ cent. discount for average parcels. Currency bills on the Atlantic are offered at 45 ¢ cent. premium on gold. Sight Drafts, payable in coin, are selling at 2¼ ¢ cent. premium, and Telegraphic Transfers are made at 4 ¢ cent. Sterling Exchange is ruling at 48½¢49¢ for best bankers' bills; Commercial do., 49½¢50¢.

The exports of Treasure from January 1st to date amount to \$36,620,184.29, and during the same period in 1865, \$34,852,469.46, showing an increase of \$1,767,714.83 for 1866.

We notice that the "Odd Fellows' Savings Bank" filed its certificate of incorporation during the past week. The design of this institution is to receive deposits from "Odd Fellows and their friends," the funds to be invested in the same manner as those of the other Savings Banks in our city. It is expected to commence operations next month, and the location of the office will be in the Hall of the Association on Montgomery street. Chas. Langley, Henry B. Brooks, H. J. Booth and others are named as Trustees in the articles of incorporation.

City Stocks may be said to be inactive, with the exception of the Spring Valley Water Co., which sold to the extent of over 200 shares, at \$58.50@58. At auction, 200 shares of this stock were sold at \$57.75—dividend of ½ ¢ cent. per month included. California Steam Navigation Co. brought 69¢68 ¢ cent. At the close we quote it at 68. A dividend of 2 ¢ cent. on the capital stock of this company was paid on the 16th inst. California State Telegraph Co. paid a quarterly dividend of \$1 per share on the 15th inst. This stock is quoted at \$35 asked. Fireman's Fund Insurance Co. sold at auction during the week as follows: 100 shares at \$10.82 per share, and 904 shares at \$10.67½. At the close we quote it at 108 ¢ cent. asked.

United States 7-30 Bonds have been dealt in to a very large amount during the past week. In the Board, the June issue realized 74½¢74¾¢, and August issue 73¾¢. At auction, \$5,000 of June Bonds sold at 74c, and \$21,000 at 73½¢. At the close we quote June issue at 74½¢, and August at 73¾¢. San Francisco Bonds of 1858, to the amount of \$500, sold at 70 ¢ cent. Legal Tender Notes commanded 70½¢70¼¢, closing at 70c asked and 69½¢ bid.

The Mining share Market has shown considerable activity during the past week, but as a general thing most stocks have fallen from our last quotations. Crown Point is the exceptional case of decided improvement, while Savage and Empire Mill and Mining Co. fluctuated a trifle beyond previously quoted figures.

24 shs Ophir at 115 per share b 10.
 36 shs Ophir at 110 per foot.
 12 shs Ophir at 110 per foot s 3.
 12 shs Ophir at 112½ per foot, b 10.
 15 shs Bullion at 1½ per share
 20 shs Bullion at 2 per share.
 5 shs Imperial at 78 per share, c.
 1 sh Imperial at 80 per share.
 10 shs Overman at 5 per foot.
 20 shs Overman at 5 per share, b 10.
 10 shs Overman at 5 per share, c.
 5 shs Overman at 4½ per share, s 3.
 5 shs Confidence at 40 per share, s 30.
 5 shs Confidence at 45 per sh, s 30.

AFTERNOON SESSION.

96 shs Ophir at 110 per foot.
 12 shs Ophir at 105 per foot.
 48 shs Ophir at 105 per foot.
 20 shs Daney at 4 per share.
 1 sh Yellow Jacket at 620 per foot.
 1 sh Yellow Jacket at 607 per foot b 3.
 8 shs Yellow Jacket at 610 per ft b 3.
 1 sh Yellow Jacket at 605 per foot s 3.
 2 shs Yellow Jacket at 510 per foot, s 5.
 1 sh Yellow Jacket at 607½ per ft s 30.
 3 shs Yellow Jacket at 510 per foot.
 1 sh Yellow Jacket at 610 per foot s 30.
 2 shs Yellow Jacket at 612½ per foot b 3.
 1 sh Yellow Jacket at 612 per foot.
 1 sh Yellow Jacket at 618 per ft b 3.
 4 shs Gould & Curry at 410 per foot.
 1 sh Chollar-Potosi at 107 per ft.
 1 sh Chollar-Potosi at 107½ per foot.
 3 shs Chollar-Potosi at 108 per foot.
 4 shs Chollar-Potosi at 108 per foot, b 30.
 5 shs Confidence at 45 per share.
 10 shs Imperial at 52 per share, b 30.
 120 shs Overman at 5 per share.
 10 shs Overman at 4½ per share, s 30.
 20 shs Overman at 4½ per share.
 10 shs Overman at 4½ per share, s 30.
 15 shs Overman at 4½ per share.
 30 shs Bullion at 2½ per share.
 4 shs Empire M & M Co. at 78 per sh, b 3.
 2 shs Empire M & M Co. at 76 per share.
 1 sh Empire M & M Co. 76½ per sh s 30.
 Amount of sales.....\$ 47,836 00

Wednesday, October 17.

50 shs Daney at 4 per foot.

24 shs Ophir at 105 per foot.
 12 shs Ophir at 104 per foot, b 5.
 24 shs Ophir at 102½ per foot.
 36 shs Ophir at 100 per foot.
 12 shs Ophir at 97½ per foot.
 24 shs Ophir at 95 per ft. c.
 2 shs Savage at 1210 per foot.
 1 sh Savage at 1210 per foot, b 5.
 3 shs Savage at 1200 per foot b 5.
 4 shs Savage at 1200 per foot, b 3.
 2 shs Savage at 1200 per foot, s 3.
 4 shs Savage at 1200 per foot.
 4 shs Savage at 1200 per foot, b 30.
 1 sh Yellow Jacket at 580 per foot.
 6 shs Yellow Jacket at 575 per foot.
 4 shs Yellow Jacket at 583 per foot c.
 2 shs Yellow Jacket at 590 per ft, s 3.
 3 shs Yellow Jacket at 590 per foot.
 2 shs Yellow Jacket at 595 per foot.
 1 sh Yellow Jacket at 620½ per foot.
 2 shs Yellow Jacket at 590 per ft, s 3.
 2 shs Yellow Jacket at 590 per foot s 3.
 1 sh Yellow Jacket 587½ per foot s 5.
 1 sh Yellow Jacket at 595 per foot b 30.
 1 sh Yellow Jacket at 587½ per foot b 30.
 5 shs Yellow Jacket at 500 per foot, b 30.
 3 shs Yellow Jacket at 602½¢601 pr ft b 30.
 1 sh Yellow Jacket at 612 per foot b 20.
 3 shs Yellow Jacket at 612 pr ft s 3.
 17 shs Belcher at 55 per foot, b 30.
 1 sh Belcher at 50 per foot s 3.
 1 sh Belcher at 52 per foot, b 30.
 4 shs Gould & Curry at 400 per foot, s 5.
 16 shs Gould & Curry at 400 per foot.
 16 shs Bullion at 2½ per share.
 3 shs Imperial at 77 per share, s 3.
 5 shs Overman at 5 per share.
 10 shs Overman at 5 per share, s 10.
 15 shs Overman at 5½ per share, s 3.
 35 shs Spring Valley Water Co at 53 pr ct.

AFTERNOON SESSION.

60 shs Ophir at 97 per foot.
 5 shs Belcher at 50 per foot.
 1 sh Belcher at 47½ per foot s 30.
 1 sh Savage at 1195 per foot, s 10.
 80 shs Daney at 3 per foot.
 20 shs Daney at 3½ per foot.
 1 sh Chollar-Potosi at 113 per foot.
 1 sh Yellow Jacket at 575 per foot, s 3.
 2 shs Yellow Jacket at 575¢570 per ft, s 30.
 1 sh Yellow Jacket at 575 per foot, s 10.

AFTERNOON SESSION.

1 shs Yellow Jacket at 620 per foot b 5.
 1 sh Yellow Jacket at 627½ pr ft b 3.
 2 shs Yellow Jacket at 53½ per foot, b 10.
 1 sh Yellow Jacket at 625 per foot s 3.
 3 shs Yellow Jacket at 62½ per foot.
 1 sh Yellow Jacket at 620 per foot s 30.
 1 sh Yellow Jacket at 620 per foot s 3.
 1 sh Yellow Jacket at 620 per foot.
 4 shs Yellow Jacket at 630 per foot, b 20.

Hale & Norcross continues in good favor, and from what we can learn, the yield of bullion for October will be fully as large as that of September, and that the ore shows a slight improvement. It may be quoted at \$2,000 asked.

Savage was sold at \$1,200, advanced to \$1,210, then sold at \$1,230, b 30, and closed at \$1,205, b 30. The upper stations of this mine have been yielding about 22 tons per day during the week ending October 13. On the ninth floor, North Potosi chimney, the deposit of ore is widening, and the productions of the fourth and fifth floors, in the sixth station, bring the second-class ore to its present advanced grade of about \$65 per ton. The lower breast, in the Curtis shaft, yielded 150 tons of ore during the first week of this month, and some 250 tons in all have been forwarded to custom mills from this point. During the week ending Oct. 13th, 1,258 tons of ore were extracted, the approximate value of which is given at \$52,650; allowing \$28,067 for mining and reducing the same, the sum of \$24,583 will accrue to the company. Over 400 men are now employed.

Crown Point has advanced from our last quotation, selling at \$1,000@1,015, buyer 30, then at \$1,000@1,005, closing at \$1,000 asked. In drifting east on the 300-foot level, a large body of very fine ore has been discovered. The incline from the 300 to the 400-foot station is down some 95 feet, and exhibits good ore. The first clean up, embracing about a third of the present month, yielded \$31,000 in bullion. During the week ending October 14th, 759 tons of ore were extracted from the mine, a gain of 145 tons over the previous week.

Yellow Jacket declined to \$660, then dropped to \$605, seller 3, and receded still further to \$580, closing yesterday at \$600. During the first week of the present month, three tons of first-class and 1,520 tons of second-class ore were mined. The amount of bullion produced up to the 8th instant—\$20,212.04—does not, it is said, represent the yield of the rock, but only the amount received. The principal items of expenditure for the month of September are—Labor, \$36,639; legal expenses, \$44,600; reducing ore, \$131,573. The legitimate expenses of the mine for the month of September are reported at \$198,982.

Ophir met with a rapid decline during the past week, receding from \$150 to \$105, then declining to \$97, closing at \$74. An assessment of \$6 per share, or \$72 per foot, was levied on the 16th inst., payable on the 19th. Delinquents will be advertised Nov. 19th. It is said that \$1,000,000 in bullion has been extracted from this mine within the past year and a half, and that the whole amount has been expended on the mine and in paying numerous officials.

Gould & Curry opened at \$500, buyer 30, declined to \$475@450, then dropped to \$400@410, and closed at \$400, buyer 30.

Imperial opened at \$76, advanced to \$78@80, and closed at \$77 bid. The new shaft has attained a depth of 616 feet. The receipts of bullion up to the 18th instant amounted to \$32,736, against \$25,954 during the same period in September. We understand that the developments are improving in both mines of this company, and that the mills are running to their full capacity.

Chollar-Potosi receded from \$110 to \$102, and sold yesterday at \$80, b 30. Confidence sold at \$50@45. It is said that this company have suspended operations for the present. The annual meeting for the election of Trustees will be held on Nov. 9th. Empire Mill and Mining Co. opened at \$75, improved gradually to \$80@79, and closed at \$79. Bullion was dealt in to the extent of some 200 shares, opening at \$2.50@1.75, then selling at \$13@12.50, assessment of \$10 included, and closing at \$12.50. Belcher sold, within a range of \$78@45.

Overman sold within a range of \$11.25@3.50. On the 17th inst., an assessment of \$5 per share was levied on this stock. Daney sold at \$4@3.50. An assessment of 75 cents per share was levied on this stock on the 17th inst. Sierra Nevada brought \$1.50.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$342,811.75.

2 shs Yellow Jacket at 580 per foot.
 2 shs Yellow Jacket at 591¢600 per ft, b 30.
 2 shs Yellow Jacket at 582½ per foot.
 1 sh Yellow Jacket at 581 per foot.
 1 shs Yellow Jacket at 580 per ft s 30.
 1 sh Yellow Jacket at 520 per foot b 5.
 35 shs Overman at 4½ per share.
 5 shs Overman at 4½ per share.
 10 shs Overman at 4 per share s 30.
 50 shs Overman at 4 per share.
 20 shs Overman at 4 per share s 5.
 5 shs Overman at 4 per foot, s 3.
 1 sh Empire M & M Co. at 80 per share.
 1 sh Empire M & M Co. at 79 per share.
 60 shs Spring Valley W W at 53 pr ct.
 Amount of sales.....\$ 48,180 50

Thursday, October 18.

3 shs Chollar-Potosi at 108¢101 per foot.
 4 shs Chollar-Potosi at 99 per foot, s 30.
 5 shs Chollar-Potosi at 103 per foot, b 30.
 2 shs Chollar-Potosi at 101¢100 per foot s 3.
 2 shs Chollar-Potosi at 101 per foot s 3 d.
 12 shs Ophir at 96 per foot.
 24 shs Ophir at 95 per foot.
 12 shs Ophir at 95 per foot, b 30.
 8 shs Belcher at 48 per foot, s 3.
 5 shs Yellow Jacket at 587¢615 per ft.
 9 shs Yellow Jacket at 620¢630 per ft b 5.
 5 shs Yellow Jacket at 622½¢610 per ft s 3.
 2 shs Yellow Jacket at 615 per foot b 30.
 1 sh Savage at 1195 per foot 10 d.
 3 shs Savage at 1190 per foot.
 1 sh Savage at 1185 per foot s 10.
 1 sh Savage at 1205 per foot, b 30.
 4 shs Crown Point at 1000 per foot b 30.
 20 shs Overman at 4 per share.
 10 shs Overman at 3½ per share, s 10.
 10 shs Overman at 3½ per share, s 30.
 5 shs Bullion at 13 per share.
 5 shs Bullion at 13 per share.
 3 shs Cal Steam Nav Co at 63 per cent.

AFTERNOON SESSION.

1 shs Yellow Jacket at 620 per foot b 5.
 1 sh Yellow Jacket at 627½ pr ft b 3.
 2 shs Yellow Jacket at 53½ per foot, b 10.
 1 sh Yellow Jacket at 625 per foot s 3.
 3 shs Yellow Jacket at 62½ per foot.
 1 sh Yellow Jacket at 620 per foot s 30.
 1 sh Yellow Jacket at 620 per foot s 3.
 1 sh Yellow Jacket at 620 per foot.
 4 shs Yellow Jacket at 630 per foot, b 20.

2 shs Yellow Jacket at 615 per foot.
 1 sh Yellow Jacket at 612½ per ft s 30.
 2 shs Yellow Jacket at 615 per foot b 3.
 1 sh Yellow Jacket at 615 per foot s 3.
 2 shs Yellow Jacket at 615 per foot s 30.
 6 shs Ophir at 91 per foot.
 7 shs Ophir at 91 per foot.
 1 sh Chollar-Potosi at 112 per foot.
 5 shs Belcher at 40 per foot s 30.
 2 shs Belcher at 47 per foot, s 3.
 2 shs Belcher at 44 per foot, s 3.
 1 sh Belcher at 45 per foot.
 1 sh Belcher at 45 per foot s 4.
 10 shs Overman at 4 per share.
 6 shs Overman at 4 per foot, b 20.
 10 shs Overman at 3½ per share, s 30.
 10 shs Overman at 3½ per share, s 30.
 5 shs Bullion at 10 per share, s 30.
 20 shs Bullion at 12½ per share.

Friday, October 19.

2 shs Yellow Jacket at 605¢630 per foot.
 1 shs Yellow Jacket at 612½ per foot s 30.
 4 shs Yellow Jacket at 615 per foot b 3.
 4 shs Yellow Jacket at 615 per foot b 3.
 2 shs Yellow Jacket at 615 per foot s 3.
 3 shs Yellow Jacket at 615 per foot, b 30.
 4 shs Chollar-Potosi at 110 per foot.
 1 sh Chollar-Potosi at 110 per foot, s 3.
 15 shs Chollar-Potosi at 106½ per foot.
 36 shs Ophir at 85¢84 per foot.
 24 shs Ophir at 83 per foot.
 35 shs Ophir at 80 per foot, s 30.
 24 shs Ophir at 80 per foot, s 3.
 35 shs Ophir at 82½¢80 per foot.
 48 shs Ophir at 81¢79 per foot, s 30.
 12 shs Ophir at 82 per foot, b 20.
 3 shs Belcher at 44¢45 per foot.
 1 sh Belcher at 44 per foot s 15.
 15 shs Confidence at 44 per share, s 30.
 15 shs Confidence at 44 per share, s 30.
 3 shs Bullion at 12 per share.
 20 shs Overman at 16½ per share.
 5 shs Overman at 16 per share, s 30.
 15 shs Overman at 14¢15 per share s 3.
 10 shs Overman at 14 per share.
 20 shs Overman at 14 per share.
 10 shs Overman at 14 per share, s 10.
 25 shs Overman at 14 per share, s 30.
 10 shs Overman at 14 per share, s 15.

AFTERNOON SESSION.

2 shs Yellow Jacket at 622½¢600 pr ft s 30.
 2 shs Yellow Jacket at 600 per foot.
 1 sh Yellow Jacket at 600 per foot, s 3.
 1 sh Chollar-Potosi at 84 per foot.
 4 shs Chollar-Potosi at 80¢81 per ft b 30.
 8 shs Ophir at 80¢81 per foot, b 30.
 35 shs Ophir at 78 per foot, s 30.
 24 shs Ophir at 80¢77 per foot.
 60 shs Ophir at 76¢75 per foot.
 24 shs Ophir at 77¢79 per foot, b 30.
 21 shs Ophir at 74 per foot.
 10 shs Confidence at 45 per share.
 4 shs Gould & Curry at 400 per foot, b 30.
 25 shs Overman at 16 per share.
 \$15,000 Legal Tender Notes at 70c.
 Amount of sales.....\$ 32,666

MINING SHAREHOLDERS' DIRECTORY

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals].

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME	AMT OF ASSESSMENT	DAY	OF SALE
Altos M. Co. Mex. \$1.	Oct 31-Nov 19	Oct 31-Nov 19	Oct 31-Nov 19
Altaville Q. M. Co. \$1.	Nov 5-Nov 22	Nov 5-Nov 22	Nov 5-Nov 22
Consolidated S. M. Co. \$1.	Oct 1-Oct 21	Oct 1-Oct 21	Oct 1-Oct 21
Crown Point, dividend, \$30 lb.	Payable June 15	Payable June 15	Payable June 15
Confidence S. M. Co., Stacey Co., Nev., div. 10 c.	Payable July 9	Payable July 9	Payable July 9
Confidence S. M. Co., Annual Meeting	Oct 9	Oct 9	Oct 9
Diana G. & S. M. Co. Nev. \$5.	Oct 6-Nov 2	Oct 6-Nov 2	Oct 6-Nov 2
Dancy G. & S. M. Co. 75c.	Nov 2-Dec 3	Nov 2-Dec 3	Nov 2-Dec 3
Ethan Allen O. & S. M. Co. 50c.	Nov 6-Nov 27	Nov 6-Nov 27	Nov 6-Nov 27
Eureka, San Juan, dividend \$1.50 per sh.	Payable Sept 3	Payable Sept 3	Payable Sept 3
Empire M. & M. Co. dividend.	Payable Oct 10	Payable Oct 10	Payable Oct 10
Great Central M. Co. \$1.	Nov 15-Dec 3	Nov 15-Dec 3	Nov 15-Dec 3
Great W. & H. M. Co. Alp. Co. \$2.50.	Oct 21-Nov 6	Oct 21-Nov 6	Oct 21-Nov 6
Great Central M. Co.	Annual Meeting Oct 8	Annual Meeting Oct 8	Annual Meeting Oct 8
Good & Curry, dividend \$30 lb.	Payable June 8	Payable June 8	Payable June 8
Humboldt G. & S. M. Co. Nev. \$2.	Nov 1-Nov 27	Nov 1-Nov 27	Nov 1-Nov 27
Humboldt M. Co. Nev. \$1.00.	Oct 15-Nov 5	Oct 15-Nov 5	Oct 15-Nov 5
Hale & Norcross, dividend.	Payable Oct 15	Payable Oct 15	Payable Oct 15
I. L. G. & S. M. Co. \$1.50.	Oct 30-Nov 20	Oct 30-Nov 20	Oct 30-Nov 20
Imperial G. & S. M. Co. dividend \$5 sh.	Payable Sept 15	Payable Sept 15	Payable Sept 15
Independent M. Co. dividend.	Payable Sept 1	Payable Sept 1	Payable Sept 1
Jefferson G. & S. M. Co. Yuba Co. Div. \$10 sh.	Payable Aug 23	Payable Aug 23	Payable Aug 23
Keystone M. Co. Calaveras Co. \$5.	Oct 21-Nov 19	Oct 21-Nov 19	Oct 21-Nov 19
Keystone M. Co.	Annual Meeting Nov 13	Annual Meeting Nov 13	Annual Meeting Nov 13
Lady Bell G. M. Co. 10c.	Nov 19-Dec 6	Nov 19-Dec 6	Nov 19-Dec 6
La Blanca G. & S. M. Co. \$1.	Nov 3-Dec 6	Nov 3-Dec 6	Nov 3-Dec 6
La Blanca G. & S. M. Co.	Annual Meeting Oct 9	Annual Meeting Oct 9	Annual Meeting Oct 9
La Vielle G. M. Co. \$1.	Oct 9-Oct 31	Oct 9-Oct 31	Oct 9-Oct 31
Liberty G. & S. M. Co. Mex. \$5.	Oct 27-Nov 12	Oct 27-Nov 12	Oct 27-Nov 12
Lady Bell G. M. Co.	Annual Meeting Oct 24	Annual Meeting Oct 24	Annual Meeting Oct 24
Mina Rica de las Flores M. & S. Co. Cal. \$1.	Oct 2-Oct 25	Oct 2-Oct 25	Oct 2-Oct 25
Melones and Stanislaus G. & S. Co. \$2.	Oct 6-Oct 25	Oct 6-Oct 25	Oct 6-Oct 25
Manumoth G. M. Co. Kern Co. \$500.	Oct 4-Oct 20	Oct 4-Oct 20	Oct 4-Oct 20
Nompson G. & S. M. Co. \$1.	Nov 5-Nov 28	Nov 5-Nov 28	Nov 5-Nov 28
Nuestra Señora de Guadalupe S. M. Co. \$1.	Nov 3-Nov 27	Nov 3-Nov 27	Nov 3-Nov 27
N. H. & R. Co. \$1.	Nov 12-Dec 12	Nov 12-Dec 12	Nov 12-Dec 12
Ophir S. M. Co. Nevada. \$5.	Nov 19-Dec 10	Nov 19-Dec 10	Nov 19-Dec 10
Ophir of the Colorado S. M. Co.	Annual Meeting Nov 19	Annual Meeting Nov 19	Annual Meeting Nov 19
Overman S. M. Co. \$5.	Nov 17-Dec 4	Nov 17-Dec 4	Nov 17-Dec 4
Providence O. & S. M. Co. \$2.	Nov 24-Dec 8	Nov 24-Dec 8	Nov 24-Dec 8
Reindeer M. Co.	Meeting Oct 20	Meeting Oct 20	Meeting Oct 20
San Francisco M. Co. \$1.	Nov 17-Dec 3	Nov 17-Dec 3	Nov 17-Dec 3
San Rafael S. M. Co. Mex. \$1.	Oct 19-Nov 21	Oct 19-Nov 21	Oct 19-Nov 21
Santa Cruz Petrol Oil Works Co. 50c.	Nov 6-Nov 27	Nov 6-Nov 27	Nov 6-Nov 27
Santa Cruz Petrol Oil Works Co.	Annual Meeting Oct 25	Annual Meeting Oct 25	Annual Meeting Oct 25
Sierra Nevada S. M. Co. \$2.50.	Nov 3-Nov 27	Nov 3-Nov 27	Nov 3-Nov 27
San Francisco M. Co. \$1.	Nov 3-Nov 27	Nov 3-Nov 27	Nov 3-Nov 27
San Francisco M. Co. \$1.	Nov 3-Nov 27	Nov 3-Nov 27	Nov 3-Nov 27
Segregated Belcher M. Co.	Meeting Oct 15	Meeting Oct 15	Meeting Oct 15
Savage S. M. Co. dividend.	Payable Oct 9	Payable Oct 9	Payable Oct 9
Stockton M. Co. \$1.	Nov 3-Nov 27	Nov 3-Nov 27	Nov 3-Nov 27
Telluride M. Co. \$1.	Nov 3-Nov 27	Nov 3-Nov 27	Nov 3-Nov 27
White & Murphy G. & S. M. Co. \$1.	Oct 11-Nov 1	Oct 11-Nov 1	Oct 11-Nov 1
Yellow Jacket S. M. Co., div. \$50 sh.	Payable Oct 15	Payable Oct 15	Payable Oct 15

* Those marked with an asterisk (*) are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, October 19, 1866.

UNITED STATES 7 3-10ths.	Bid.	Asked.
Gov. Legal Tender Notes.	69	70
State Bonds, 7 3-10ths.	104	105
San Francisco 10 3-10ths.	104	105
San Francisco Bonds, 1855, 6 3-10ths.	126	128
San Francisco Gas.	69	70
San Francisco Bonds, 1855, 6 3-10ths.	19	21
Sacramento City Bonds, 6 3-10ths.	61	65
Sacramento County Bonds, 6 3-10ths.	75	82
Stockton Bonds, 10 3-10ths.	85	85
Yuba County Bonds, 10 3-10ths.	80	85
Butte County Bonds, 10 3-10ths.	70	80
California Navigation Co.	67	68
State Telegraph Stock.	32	35
Sacramento Gas Co.	75	75
Spring Valley Water Co.	51 1/2	58 1/2

RAILROADS.

Sacramento Valley Railroad.	55	60
Ombabus Railroad.	65	65
Central Railroad Co.	46	48
North Beach and Mission.	46	48

MINING STOCKS.

Alpha.	\$	70
Baltimore American.	12	12 1/2
Bullion, G. H.	45	47
Becher.	45	48
Confidence.	74	80
Ophir.	350	400
Empire M. & M. Co.	79	80
Savage.	1170	1182 1/2
Chollar-Potosi.	82 1/2	68
Hale & Norcross.	1700	2000
White & Murphy.	1	1 1/2
Sierra Nevada.	600	615
Yellow Jacket.	800	815
Overman.	950	1000
Crown Point.	77	78
Imperial.	77	78

San Francisco Market Rates.

WHOLESALE PRICES.

Flour, extra, per bbl.	5 75 @ 6 00
Do Superfine.	5 25 @ 5 50
Corn Meal, per 100 lb.	2 00 @ 2 50
Wheat, per 100 lb.	1 60 @ 1 60
Oats, per 100 lb.	1 45 @ 1 55
Barley, per 100 lb.	85 @ 1 00
Beans, per 100 lb.	3 50 @ 5 00
Potatoes, per 100 lb.	75 @ 1 00
Hay, per ton.	6 00 @ 13 50
Live Oak Wood, per cord.	8 00 @ 10 00
Beef, on foot, per lb.	8 @ 10
Beef, extra, dressed, per lb.	10 @ 12 1/2
Sheep, on foot, per lb.	4 00 @ 5 00
Hogs, on foot, per lb.	8 @ 9
Hogs, dressed, per lb.	12 1/2 @ 13

GROCERIES, ETC.

Sugar, crushed, per lb.	12 1/2 @ 13
Do China.	10 @ 11
Coffee, Costa Rica, per lb.	24 @ 25
Do Rio.	23 @ 23 1/2
Tea, Japan, per lb.	80 @ 90
Do Green.	60 @ 1 25
Hawaiian Rice, per lb.	9 @ 10
Chiaua.	62 @ 71
Coal Oil, per gal.	65 @ 70
Candles, per lb.	16 @ 23
Randi Butter, per lb.	35 @ 40
Isthmus do.	30 @ 37 1/2
Cheese, California, per lb.	10 @ 17
Eggs, per doz.	50 @ 60
Lard, per lb.	18 @ 20
Ham and Bacon, per lb.	20 @ 21
Shoulders.	12 1/2 @ 15

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Butter, California Fresh, per lb.	45 @ 45
do pickled, per lb.	35 @ 50
do Oregon.	35 @ 50
do New York, per lb.	40 @ 50
Cheese, per lb.	15 @ 25
Honey, per lb.	30 @ 40
Eggs, per doz.	22 @ 25
Lard, per lb.	22 @ 25
Ham and Bacon, per lb.	22 @ 25
Cranberries, per gal.	7 @ 1 00
Potatoes, old, per lb.	6 @ 10
do New, per lb.	10 @ 15
Tomatoes, per lb.	6 @ 6
Onions, per lb.	3 @ 6
Apples, per lb.	3 @ 5
Pears, Isabe, per lb.	8 @ 10
Plums, dried, per lb.	20 @ 22
Peaches, dried, per lb.	15 @ 20
Oranges, per doz.	50 @ 60
Lemons, per doz.	75 @ 80
Chickens, apiece.	87 @ 1 12
Soap—Palm & C. O.	8 @ 10
Castile.	10 @ 15

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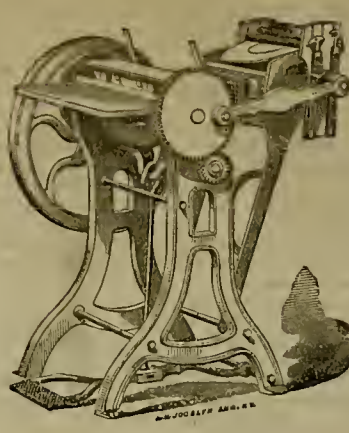
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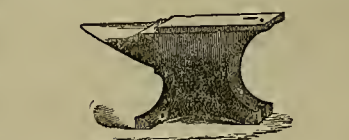
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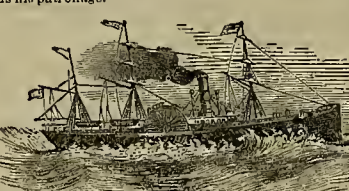
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1867 JANUARY 1st, 1867

Commencement of Fourteenth Volume

— OF THE —

Mining and Scientific Press

Published Every Saturday.

The title of our journal is a truthful expression of its character.

It affords a class of progressive information to the Miners, Mechanics and Professional Men of the Pacific Coast, which cannot be derived from books, or other publications.

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The prospects of our journal are now brighter than at any former period. Our facilities for furnishing a valuable paper are constantly increasing.

Editorial Expressions:

Following are some of the many opinions generously expressed by our neighbors:

MINING AND SCIENTIFIC PRESS.—The paper whose name we have just written, ranks among the leading scientific journals of the world. On mining matters it certainly has no equal, and more than all other causes combined, it has advanced the interests of the quartz miners of the Pacific Coast. Its editors are men of thorough education and large practical experience, and its list of contributors embraces many names distinguished in the various fields of scientific exploration and mechanical invention. The Mining and Scientific Press ought to circulate universally among intelligent Californians, to whom we most cordially commend it, and its traveling agent, O. P. Truesdell, who is now canvassing this city and county, and will shortly visit other counties in the southern part of the State, in its interest. —[Stockton Daily Independent, Sept., 1866.]

"SULPHURETS," and "Our Lady Correspondent," of the Mining Press, have each contributed an interesting article on Mines and Mining in Andador county. Hope they will keep up the fire. One of our subscribers complains that "Sulphurets" fell into an error, in stating that the sulphurets of the middle or Jackson range are richer than those on the upper or Pae Grove. He thinks it is just the reverse. —[Amador Ledger.]

VOLUME TWELFTH.—The Mining and Scientific Press with its last issue, commenced its twelfth volume. Since Dewey & Co. have "beld the ribbons" its gilt has been rapid toward a perfect journal. Its appearance evidences its prosperity, but doubtless, like some of the rest of us, it can stand increased encouragement. Let such be given, and our word for it, volume thirteen will acknowledge receipt. —[Golden Era.]

MINING AND SCIENTIFIC PRESS.—We received a visit a few days since, from Mr. Wood, agent for the Mining and Scientific Press, who is now canvassing this county for subscribers to that valuable journal. The Press is invaluable to miners and mechanics, being the only journal of any importance on the coast entirely devoted to their interests. —[Mountain Messenger.]

SUBSCRIBE FOR IT.—The large, illustrated sixty-four column weekly newspaper—the San Francisco Mining and Scientific Press—should be taken by every miner, prospector and intelligent citizen throughout Colorado, as it gives a most of most useful information to be gained no other way, on mining matters generally. —[Rocky Mountain News.]

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It contains correspondence from different sections, giving accounts of new discoveries in gold, silver and copper, and should be taken by every person that wishes to keep well posted on the developments of our State and the Territories. —[Mountain Messenger.]

The Mining Press is particularly the miners' journal, and is doing more for the solid interests of the State than any other, by enabling its readers to unlock the mines of untold wealth which lie waste around them. —[Mountain Messenger.]

The public should support the enterprise of the Mining Press, one of the best papers in the State, by a liberal patronage, as it is only by a system of legitimate reports that our mines can be favorably brought before men in capital below. —[Calaveras Chronicle.]

It embraces one of the finest fields in the world, and seems to improve it. * * * It will be second to no scientific record now published on this continent. —[Los Angeles News.]

Prof. J. D. Whitney's address on Mining, is given entire. * * * We preserve the Press, and would like to have a full file. —[Napa Reporter.]

Friends pleased with our efforts in the publication of the Press can render us essential aid by furnishing correspondence and all important information which may come under their observation, and by calling the attention of their neighbors to the commendable features of the paper; the appreciation of which favors will be duly manifested by the constant improvement of our journal.

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Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the Silver Mountain *Bulletin* of Oct. 13th: The balance of the machinery for the Washington mill, arrived on Friday of last week, and ten days from date will probably see it in motion. The embarrassments attendant upon starting new machinery may possibly defer active operations until the last week in this month. . . . Buckeye No. 1 still lies in *statu quo*; the Northwestern Company, of Wisconsin, who leased the mine, not having made any movements as yet toward commencing operations thereon. . . . Orss are being hauled from the Morning Star to the Washington mill, preparatory to working them. . . . The I. X. L. mine is to be timbered up, and work commenced at once. . . . Times are looking up; by the middle of November sure, we shall be regularly shipping "bricks" from the Morning Star and George Washington. . . . A condensed statement from the report of the superintendent of the Pennsylvania Company, shows the financial affairs of the company to be in a healthy state.

The *Miner* of same date says: Several new mining claims have recently been located in this district, and considerable attention is being devoted to prospecting at this time.

The steam mill which has been referred to in several instances as the "Davidson Mill," is the "Geo. Washington Mill." Davidson's is a sawmill close by, running by water power.

Amador County—

From the *Ledger* Oct. 13th: A company is being organized to sink a shaft through the "marl" bed at Butte City. This marl (a sedimentary deposit) is situated in a large basin southwest of, and near, the Jackson Butte. Its surface, and the surface of the surrounding hills, were immensely rich. All attempts to get the bottom have heretofore failed. . . . Tim Hinkley's quartz mine is giving out. Thursday it gave out over one thousand dollars in clean, free gold, at last accounts was still giving out. . . . The Coney & Bigelow is "giving out." A recent run paid twelve dollars, free gold, to the ton—nearly double the usual amount. . . . Evans, Meek & Co., contemplate putting up a quartz mill soon on the South Fork, near their mine. Their shaft is now down about thirty feet. Prospects continue favorable. . . . The Kearsing mill will soon have sixteen of Ambler's pans and amalgamators attached to it. The owners of the mill have entered into a contract with Meader & Co. to work rock from the Coney & Bigelow mine.

At Middle Bar, Chesley, Reddington, Fogus and Marlette have sunk a shaft on the first south extension of the 'old Marlette' mine this summer, and at a depth of sixty feet are getting some good ore, though, as yet, they have not found the main lode. They are now drifting east, through the black gouge, and there is little doubt that they will get a valuable mine. We were shown a piece of quartz the size of a goose egg containing more than a hundred dollars in gold.

Calaveras County—

From the *Courier* of October 13th: Messrs. Gleason & O'Neil have recently struck rock of most extraordinary richness in their claim—the old Foot and Thompson lead—at Rich Gulch. The claim was very successfully worked several years since by the then owners, who erected a mill thereon, and took a very large amount of money out of the lead; but striking a barren spot in the vein, they abandoned it. The present owners have run a tunnel some six or seven hundred feet in length directly on the lead, and the rock for the entire distance prospects handsomely. The streak of extremely rich quartz recently discovered is about two feet in thickness. . . . The Gold Hunter company, of Salt Spring Valley, are still taking out rich rock at the depth of fifty feet. . . . We learn that a new vein, two feet and a half wide, very rich in gold, has been struck within the present week in the Hardy claim, French Gulch.

From the *Chronicle*: We have been shown forty-two dollars obtained from two tons of rock from a quartz lead in West Gulch. A shaft has been sunk to the depth of ninety feet on the claim, and the ledge is one solid mass of gold-bearing quartz, six feet wide, from the top to the bottom. The rock crushed was unassorted. In addition to the above, the sulphurets, which constitute about five per cent. of the rock, assay \$800 to the ton.

Humboldt County—

From the *Journal* of October 4th: The Fanner Farm Oil company met on the 17th instant, and suspended for the present. They are 300 feet down; I should say they have about as good prospects before them as any; but they cannot well descend deeper without machinery, which they probably will not get this season.

Kern County—

From the *Havilah Courier* of October 13th: An assay of rock taken from the Governor Troupe lode, on Kern river, owned by Lovely Roger, Hamp. Williams, Wyatt and Martin, was made a few days since by Mr. D'Heureuse, assayer of our town, and the result was fifty-nine dollars and twenty-eight cents of silver, and fifty dollars and forty cents of gold, a larger percentage of silver than ever before obtained in this section. . . . The Alpine Gold and Silver Mining company at Greenhorn have completed their 20-stamp mill, and will let on the steam next week. This company have eighty hands employed, and about five hundred tons of rock ready for crushing.

Los Angeles County—

From the *News* of October 2d: Messrs. Searls and Yates have discovered a gold-bearing quartz lode, in San Francisco canyon, about forty-five miles from this city, that surpasses in richness anything that has been discovered in this section of the State.

Nevada County—

From the *Gazette*, Oct. 11th: We heard a report yesterday that rich placer diggings have lately been discovered on one of the head branches of the Yuba river, the exact locality of which we are not advised. The diggings had been worked many years ago, the ruins of an old cabin having been found in the vicinity. Some of the dirt of the cabin floor was washed, and yielded from seventy-five cents to a dollar a pan.

Same of the 12th: The Ancient River Blue Gravel Company, whose claims are situated in the neighborhood of Bear Valley, will commence, on Monday next, the erection of machinery for the purpose of sinking a shaft or incline to prospect their ground. An assessment has been levied by the Trustees of the Company sufficient to raise a working capital of \$40,000, which will be expended in developing their claims. . . . The last run of Stiles's mill, on rock from the Banner mine, yielded over sixty dollars a ton. This, we believe, is the largest yield yet made in any full run on the Banner ore. The run was mostly made on rock taken from the bottom of the incline, and is regarded as further proof that the ore is increasing in richness with the depth reached in the mine.

Same of 13th: A number of mining companies are now engaged in opening hill claims situated about ten miles above Nevada, near the Cascades or Falls of Deer creek. We learn that the prospects of the district are highly favorable. The claims of the Sky High company were located last Spring, and the owners commenced sinking a shaft. At twenty feet they struck gravel which gave a fair prospect. They continued to sink four feet deeper, the gravel improving in richness and the gold getting coarser, when they were compelled to desist on account of water. They are now engaged in running a tunnel to drain the claims. Immediately below the Sky High claims are the claims of the Red Diamond Company. The owners commenced the work of opening them by running a tunnel, and are already getting good prospects.

Same of 16th: The Glenbrook quartz mill, in Eureka township, was started up for regular work on Wednesday last. We learn from R. C. Black, one of the owners, that they had crushed seventy tons in three days. At that time they had not cleaned up, but from the amount of amalgam saved on the coppers, they anticipated a good yield of the rock.

It is estimated that the amount of rock crushed during the coming winter will be double that of last. The hydraulic and placer miners, too, are very generally making arrangements to commence running as soon as a supply of water can be had.

From the *National*: The Eureka mine is now being worked on the lower or third level, which is 320 feet from the surface. Drifts have been run to the distance of 270 feet one way, and 300 the other, from the bottom of the shaft. An incline 75 feet deep has been sunk on this level, out of which rock is now being taken. The pump is worked by a 26-horse power engine, and the hoisting is done by an engine of 12-horse power. The company propose to sink another shaft of about 300 feet in depth at a distance of 170 feet west from the present shaft. They have a twenty-stamp mill, which crushes forty tons of rock a day, three of Atwood's Amalgamators, and two arrastras, for which Knox pans are shortly to be substituted. The motive power is a 60-horse power engine. Two new boilers of 44-inch shell have lately been put in, which consume five cords of wood daily. Amalgamation is effected by means of blankets and copper plates. One of Hunter's Concentrators is now on trial. In the last year there has been taken out of this mine and crushed 11,460 tons of rock, with an average yield of \$50 to the ton. This gives \$573,000 as the total yield of the mine for the past year. The company have now on hand about \$15,000 worth of sulphurets, the best of which assay over \$400 a ton. One hundred and twenty-five men are employed in the mine and mill.

On Saturday last, some of the owners of the Spring Hill mine, representing the controlling portion of the stock, came up from San Francisco and ordered Captain Day, the Superintendent, to stop operations and take out the machinery; but the Captain believed himself to be near the ledge, and asked permission to work another shift. Nothing was, however, effected; but as the men were leaving the mine, the Captain put in one more blast on his own hook. . . . When the smoke cleared away he found he had struck the long-looked-for ledge, and his judgment was vindicated. Work was immediately resumed. The ledge has since proved to be well defined, rich in sulphurets, and varying from twelve to twenty-four inches in width. The incline is at present 240 feet deep, most of which was blasted out. The opening of the mine has been attended with an expense of about \$48,000, on account of the exceeding hardness of the rock.

The pump of the Essex mine, which has been shut down for the past two weeks, was started up again this morning (15th). The company now intend to run a prospecting shaft or incline from the old tunnel, and to continue working the mine until further developments show, beyond the possibility of a doubt, that the mine will not pay.

From the *Union* of the 13th: The remainder of rock to complete five tons arrived from the Mary Etta claim, on Diamond Creek, yesterday morning. Some twenty mules packed the rock to Grass Valley. We are not advised when the mill will commence the crushing of this rock, but suppose it will be during next week.

EXCELSIOR.—From the *Sun* of Oct. 11th: We are informed that the result of the late crushing of four tons of ore from the Gold Run claim, at the California mill, will go over \$30 per ton. . . . The yield of a thirty-four hour run of the Winton mill, on Mohawk rock, was \$414. This is very good for a five-stamp mill. . . . We yesterday saw about six ounces of bullion from the Wisconsin Company, obtained from rock worked in an arrastra, valued at \$100. . . . Chappetele, the obliging superintendent of the Mohawk and Montreal, yesterday showed us a fine little bar of bullion, weighing \$75.71, obtained from four tons of rock from the Eclipse Company's mine. . . . In our monthly statement of the amount of bullion shipped from this district during the month of September, we overlooked shipments to the amount of \$245.81 from the Mohawk and Montreal Company's mine. . . . It is rumored about town that the Pacific Company have leased the Winton mill for six months, from the first of December, and that they intend to erect two more sets of batteries, of five stamps each, and make other substantial improvements. . . . The Excelsior mill is now steadily at work, crushing some forty tons of rock per day.

Plumas County—

From the *National* of October 13th: The Crescent company are moving their 24-stamp mill over to the Premium and Plumas lodes. The mill will be in running order in a few weeks. . . . We learn that the old Hessler mill, in Argentine district, owned by the Sherman brothers and Caniday, with only three stamps, is paying from forty to sixty dollars per day. . . . Messrs. Judkins and Kellogg have let the contract for putting in the famous Round Valley dam again, to Mr. Young, of Indian Valley. He has a large force of hands employed to work upon it. . . . We learn that the Bull Frog mill, on Bush Creek, has been stopped, and the hands discharged, the mill having ceased to pay.

Shasta County—

From the *Courier* of October 13th: The Mammoth company are carrying on work vigorously—running the mill, getting out rock, and sinking shafts. . . . The Potosi made another short run last week, and cleaned up \$665.37. . . . All work has been suspended on the Kellinger claim for the present. Twenty tons of ore from the upper tunnel was smelted in San Francisco last week, and if the yield is equal to expectation, work will be resumed in a short time. . . . The old Pittsburg mines around the base of Bully Hill are yielding well wherever water can be procured. Sanford has struck good diggings, and the Bamboo company are still taking out good pay.

The prospects of the South Fork mines continue favorable. Work in the Chicago is going on briskly, and the lode is looking and prospecting splendidly. The Big Central lode shows a width of six feet, and the rock prospects satisfactorily, getting better as the shaft descends. The Red Warrior claim is looking up in importance, and one of the stockholders boasts of having refused five dollars per foot for 150 feet. . . . The stockholders of the Crystal ledge have effected a conditional sale of their mine to a San Francisco company. The company agree to prospect the lode until the first of January, and at the expiration of that time will either relinquish it to the original owners, and pay them the sum of \$12,000, and retain it permanently.

At Lower Springs Mr. George has prospected on three different lodes during the past month, and finds that either of them will pay from ten to twenty dollars to the ton, without sorting the rock.

Sierra County—

From the *Messenger* of October 13th: At Bear Valley, on Thursday last, very rich rock was struck in the General Grant. They sunk on the shaft to the depth of seventy-five feet, and then drifted to the ledge. . . . At Indian Hill a large number of new claims are being prepared for working at the commencement of the approaching water season. . . . At La Porte John Conly has started a bed-rock tunnel to work the old engine ground of Cook's, located near the old Pontusac of early times in La Porte, and which was known to be rich.

A conditional sale of Ironsides mill and mine has been effected to Messrs. Barton & Taylor, of Virginia City, for \$10,000. This claim is situated at the head of Jim Crow Cañon, and has on it an excellent 8-stamp mill. The parties have ninety days in which to prospect, and if it proves a paying mine they will take it.

Siskiyou County—

From the *Yreka Union* Oct. 13th: On Scott river, some of the claims are paying remarkably well. We hear of one instance of last week's work, six men, paying \$585. . . . Faith in the wealth of the quartz of Humboldt and vicinity is growing stronger every day. Rich specimens are exhibited by many owners of leads.

Trinity County—

From the *Journal*, Oct. 13th: Since ex-Sheriff John B. May and Captain Bob Curry struck their rich claim in Cañon creek, above Junction City, the miners in that section are waking up. Many claims have been located between Junction City and the old Butler place, and new domicils are already going up. May & Curry's claim is yielding from \$100 to \$200 a day—occasionally a \$50, \$60 or \$70 piece.

Tulare County—

From the *Visalia Delta* of Oct. 10th: Lieut. Hepburn has brought us a specimen of quartz from a lode recently discovered in Kearsarge district, by our old neighbors, the Brothers. It is copper and silver, and of amazing richness.

Tuolumne County—

From the *Columbia Citizen*, Oct. 13th: Three pans of dirt from the Levy claim, that we saw washed one day this week, yielded five dollars. Mr. Levy brought a handful of dirt into our office, taken from a crevice, literally filled with the precious metal. . . . From two to three dollars to the pan is the average amount obtained in a cut recently run through Mr. Shilling's garden. An offer of \$8,000 was refused, a few days ago, for this lot. . . . The Haskell quartz lead at Whitman's Pass, about four miles from Columbia, is beginning to attract attention. Twenty tons of rock were taken to the Harding mill last week and crushed, which yielded one hundred and twelve dollars per ton. . . . Messrs. Jones & Woodman, at American camp, twelve miles from Columbia, have their shaft down about fifty feet, where the vein is from fifteen inches to three feet in thickness, and immensely rich. Samples that have been assayed yielded at the rate of from \$1,000 to \$20,000 per ton. We saw one piece weighing less than half a pound, that contained ten dollars in gold. The proprietors will have a 10-stamp mill running in a few days.

From the *Sonora Democrat* of 8th Oct.: Mr. Byrne, one of the owners of the Daly claim located on Main gulch, showed us a chipa weighing 2½ ounces that his company found on Wednesday. The Daly claim is paying well at present. Out of two "washings" the company, of six men, realized thirty-one ounces of gold dust. . . . Messrs. C. & D. Kelly have struck a rich lead on Fox gulch, near Pine Log. They are getting out ten or twelve tons of rock to be crushed at the Rawhide mill.

Yuba County—

Timbuctoo letter to the Marysville *Appeal* of October 15th says: The Western Star is one of the most promising copper mines in this district. The vein averages 2½ feet. Shaft 185 feet in depth. A large amount of eighteen per cent. ore is already out. Another promising copper mine is the Red Rock, situated some five miles from this place. The Red Rock is represented to be a very large lead of eight or ten per cent. ore. The average width is in the neighborhood of twelve feet. Since my arrival here I have been shown several specimens of silver-bearing quartz from a lead near this place. I am told that the average rock from this lead will assay over three hundred dollars. Of the hydraulic or gravel claims, the Bab is one of the most promising. The owners think of erecting a 10-stamp mill in which to work their cement.

NEVADA.

Washoe—

From the *Gold Hill News* of Oct. 11th: "The report that the Confidence mine had temporarily suspended operations by order of the Board of Trustees, in San Francisco, is en-

tirely without foundation. A small portion of the hoisting gear over the mine broke, but it is already repaired, and this caused a brief suspension of the hoisting of ore. The dumps, however, were full, and none of the mills, supplied from this mine, were delayed in the least."

Reese River.

From the *Reveille* of Oct. 6th: Many wise ones shake their heads at our account of the enormous size of the ledges in the Reveille district. They accept without a doubt all that was said of its extraordinary mineral, as fabulously rich as it appears to be, because they have seen it and placed their hands upon it, and it speaks for itself. Mr. F. M. Clarke, a gentleman and a disinterested witness, writes thus: Of the quality of the rock you will be your own judge, but as for the size of the ledges the least that can be said of them is they are monsters, at least from ten to fifty feet thick, and any amount of the same kind of rock as he will show you can be had on the surface, as I can testify. Mr. Monroe, one of the discoverers, accepts this testimony, but will go the gentleman twenty to fifty feet better.

Same paper of 10th, says: Owing to the discovery of heavy deposits of mineral, lying chiefly southeast of Austin, during the last four months, the public attention has been nearly diverted from the mines in its immediate neighborhood. The manner, too, in which several large and expensive properties in this district had been managed, almost led to the belief that the ledges of the district were too small and uncertain to prove remunerative. As good mining property as the sun ever shone on, has been slaughtered by the ignorance of pompous agents and superintendents, until the general faith in the character and permanence of our mines has well nigh been lost. In the North Star mine, for instance, the working had been carried on without the least regard to systematic mining, and was little better than a series of subterranean zigzags or gobber excavations. The search for the lost vein was finally abandoned, under the belief that it had terminated. Under the present management, the work has been resumed by Superintendent Frost, one of the original discoverers of the mine, whose thorough knowledge of the course of the vein led him at once to the point where its rich deposit had been passed or lost. The vein is now exposed for a length of 320 feet, disclosing mineral equal to the finest yet discovered in the district. An idea of the size of the vein will be conveyed when we state, that there are specimens in the office of the company, which have been extracted from the recovered ledge, weighing 500 pounds and upwards, and measuring three by four feet—masses of richest sulphur ore, assays of which range from \$600 to \$6,000 per ton.

Same of the 11th: The case of the Oregon is similar to that of the North Star. In 1863 a 10-stamp mill was erected by the company. After a while it was discovered that the ore could not be successfully treated without roasting, and the first reverberatory furnaces were built at great expense. In 1865 the property passed into the possession of the Manhattan Company, which had the advantage of ample capital. In the course of time the original mill was dismantled, and a costly 20-stamp mill was erected, furnished with every accessory befitting the operations of a wealthy company. Then followed an expenditure of thousands of dollars in confused and intricate borrowings by the scientific gophers who were placed in charge. The course of the vein is nearly east and west. It had slipped through the fingers of the workers. A scientific man from a neighboring mill was called in to survey the ground. He did the work as requested, and gave them as their true line of working to recover the vein, a course directly southeast. They worked on this line all summer, penetrating a distance of 130 feet. The interposition of the sheriff stopped the wild excavation. When Superintendent Frost came into position under the present management, he obtained the reluctant consent of the General Agent of the company to alter the line of working. He drove a cut eighteen feet due north, when he exposed the original and beautiful vein of the Oregon, just twenty-five feet from the line of the main incline. The splendid vein, which had been lost sight of by the gophers, is three feet thick, and from the level to the surface there are 135 feet wholly untouched, which may be stooped out at will.

A letter in the *Nye County News* of Oct. 6th, has a description of the splendid reduction works just erected near the Murphy mine by the Twin River Mining Company, of which we give an abstract. The buildings are of stone. The furnace is of the McGinnis pattern. The amalgamating room is furnished with six pans of Wheeler & Randall's latest improved style. The settlers are seven feet in diameter, and there is one to each tier of pans. The battery of twenty stamps, is of the "knee style," and is regarded as the model battery of the State. The motive power is a splendid engine of 125-horse power.

Humboldt.

From the *Register* of October 5th: The

Manitowoc boys are getting along hugely. Four hands at the mine are taking out on an average about two tons of first-class ore per day. On the North Star ledge the superintendent is pushing work ahead vigorously. At present he is sinking a prospecting shaft on the ledge, which has every appearance of a true fissure vein. The ore is similar to that of the Manitowoc—a sample of average rock worked by mill process being 983 fine, and yielding \$119 to the ton. Work in the Rochester claim, on the Montana ledge, goes bravely on. At a depth of 135 feet in the main shaft a drift was started, which is now in 120 feet—daily expecting to strike the ledge.

The same paper has the following star items: American Basin tunnel still driving in. Working now in a streak abounding in iron. Additional force put on last week. Yankee contract being pushed rapidly to completion. Some seventy-five feet more to finish, which will put the tunnel in 500 feet. Reported that the Whitmore will resume work soon. Change in the management of the Sheba mill. Mr. Beale is now running it with the renowned Sauchez as amalgamator.

ARIZONA.

From the *Miner* of Sept. 26th: The second Lamson mill (Thunderbolt) is being erected on the Ticuandroga lode. Ex-Judge Flower, of Yuba county, is to have charge of the Johnson and Groom mill, on the Sterling lode. Gold bars from the Borger mill are now quite common in town, and convey a substantial and gratifying evidence of the richness of the Big Bug mines. The scarcity of labor is keenly felt by our miners, ranchmen and freighters. Permanent employment at high wages can be given to a large number of men, and we hope they will be forthcoming. We hear that Mr. Borger has had to send to California for hands to work at his mill and mines.

From the *La Paz Gazette*: Everything is being got in readiness for an early commencement on the Vulture mine at Wickenburg. The machinery which is soon to be erected on the Sterling mine at Prescott, comprises two Beath mills, and a four 700-pound stamp battery. The machinery to be erected for the New York Moss Association, at Hardyville, of which Charles Strong is superintendent, comprises one 40-horse power engine, 12x24 inch cylinder; two 5-stamp batteries, with mortar independent of the framework; three of the Wheeler & Randall tractory pans; two Knox pans, two 7-foot separators; one large portable 10-ton derrick, framework for tanks, mill, etc. complete.

From Williams Fork we have the following: Work is being prosecuted by the Springfield Company on one of their claims, with good indications of success. Mr. Thompson is progressing finely in his smelting operations on the Great Central. Knowles & Lightner will have their two smelting furnaces in operation in about a month.

The Reese River *Reveille* says: The emigrants to Arizona from Austin appear to have had a very hard time. The party went from here southeast to Pahranaagat and the Colorado, and of course passed the ground where have since been discovered the Northumberland, Silver Bend, Danville, Hot Creek, Empire, Reveille and other districts richer by far than their wildest hopes ever pictured for them in Arizona.

IDAHO.

From the *Avanache* of Oct. 6th: The N. Y. & O. Co. have purchased the Eureka and Noonday quartz ledges this week; the former at \$3 per foot and the latter at \$7.50. The Knickerbocker Company are continuing their prospects on the Trook & Jennings and the south extension of the Morning Star claims. The latter has recently given signs of improvement. The north tunnel which starts seventy feet down the shaft, and runs under Loog Gulch, discloses more and richer ore than heretofore. The work is carried on night and day. The Trook & Jennings shows no additional encouragement. J. H. Johnson, of Flint district, has sold the "Tom Sturgis" quartz vein to J. P. Hopkins of New York.

From the *Idaho Times* of Sept. 28th: Mr. Kirkpatrick, an old mountaineer, has lately returned from a prospecting tour to the headwaters of the Payette and Salmon rivers. He reports having found prospects of from one to two cents to the pan, and would have investigated further had the snow not driven him out of the mountains. Some miners have organized another tunnel company on East Hill, to be commenced above Butler & Co.'s mill, on Moore's creek. Messrs. Channel & Co. are extending the old original Elk and Deer creek ditch along the summit of the divide between Grimes' and Elk creeks, to a point about three miles below Centreville.

Same of 2d Oct.: The East Hill tunnel is into the hill for over 231 feet. One and a half pounds of the hard substance they are now picking through—a kind of granite clay—was found, after a careful assay, to contain forty-two cents in gold. Clute & Co. on Moore's creek, cleaned up over \$8,000 for the week

ending last Sunday. Mr. Sanders intends keeping the Elkhorn machinery in motion all winter. The mine is looking more flattering now than at any time heretofore. Redmond & Co.'s claim, above Pine Grove, are running two sluices and employing sixty-five men. Clifton & Bottany, who are mining the ground on which Pine Grove is located, are employing about thirty-five men. The French Company are employing from forty to sixty men. Mc-Northcut & Co. are also employing a large lot of men.

MONTANA.

Bannack correspondent of the *Post* of 29th Sept. says: A train of thirty-one wagons, containing a 20 stamp mill, three sets of furnaces, and other machinery, for the Montana Mineral Land Mining Company, and also cupelling furnaces for the Rocky Mountain Gold and Silver Mining Company—passed through town to Marysville. Charles D. Everett is superintendent of the latter company, and is pushing operations ahead on the Wide West, and preparing to erect his furnaces at once. The Wide West is a silver lead in the Blue Wing district, of a very peculiar and rich ore, which is easily reduced by the smelting process.

Messrs. Kirby and Clark have nearly everything ready to put up their machinery; and tons upon tons of rich quartz, which has been taken from the Mademoiselle is ready for their 20-stamp mill.

Helena letter: "It is estimated that over five hundred persons will start from Fort Benton about the first part of next week, and the amount of treasure going down will fall little short of one and a half million dollars."

COLORADO.

From the *Journal* of Sept. 25th: The Boh-tail mine of the Sterling Company has a 30-inch pay vein the entire length of it and about 100 cords of ore. The pumps will be put in this week. The Kip & Buell Company are doing very well on the Leavitt lode, getting about \$120 a cord with their old stamp mill from the ore right along. In Russell Gulch, there is no revival as yet. The mills put up there last year, some of them yet unfinished, are standing still with a very few exceptions, and some of the most noble gold veins in the country, large, rich, and easily worked, have been so long deserted that the prospect holes and gouging are filled with grass and bushes to the bottom. Dr. Carpenter, at the McIntyre mill, has fixed the reverberatory desulphurizer in that mill so as to test his process. He took 800 pounds of tailings from the Mercer County, lying outside of the mill, which assayed \$9.03 a ton, desulphurized it and sent it to Clear Creek to Ellicott & Snider's assay. He also sent the same amount of the same tailings, undesulphurized. From the latter the assay got ten grains of gold, from the former seventy-four grains.

From the *Denver News* of Oct. 3d: Our latest advices from the Snake River mines are that Whitney & Whiting will run a tunnel on Ten-Mile creek this winter. The agent of this company is developing their property in Peru and Snake River mining districts. J. Blackman, of Mill City, is packing over the range one thousand pounds of ore from the Esmeralda lode, Snake River, to be sent to Philadelphia for test. Joe T. Boyd, prospector for the Nonpareil Company, is now sinking a shaft on a lode with a 25-foot crevice, in Colfax Park, Snake River district. The ore is a very fine appearing argentiferous galena mixed with chloride of silver, and those who have seen it feel confident of its great value. It is called the J. E. Wharton lode.

AGRICULTURAL COLLEGE.—The Board of Directors of the California State Agricultural College held a meeting in this city on Monday last, when they decided to immediately commence the examination of the various sites proposed. They visited San Jose on Tuesday, Oakland on Thursday, Napa on Friday, and will be at Sacramento on the 22d. These are the only counties thus far which have made proposals for the location of the College. Counties or communities having locations to offer, should make their propositions to the Board immediately, and they will be promptly acted upon. The Board consists of Gov. Low, Chairman; Charles F. Reed, President of the State Agricultural Society, Sacramento; H. J. Booth, President of the Mechanics' Institute, San Francisco; Felix Tracy of Shasta; William Holden of Mendocino; C. T. Ryland of San Jose; Henry Phillips of Nevada, and J. R. Meader of Copperopolis.

A LIQUOMETRE.—At one of the late sittings of the French Association for the Advancement of Science, a new instrument, called a liquometre was exhibited. It is intended for estimating the amount of alcohol in wines, and is based on the principle of capillary action. It consists essentially of a very fine graduated tube. The instrument is said also to give separate indications of the amount of tartar and extractive matter.

REMARKABLE PHENOMENON.—A private letter written by a St. Louisian, sojourning in New England, gives the subjoined description of a wonderful phenomenon witnessed by himself and others from the summit of Mt. Washington on the afternoon of the 28th of August:

"We were standing about an hour before sunset on the southeastern portion of the cone with our faces turned to the east, looking down upon the Glen House miles below. Immediately in front of us rose the lofty Carter ranges, which were occasionally hidden from our view by heavy masses of mist, which, rolling up the mountain side, enveloped us at times, and then caught by a changing wind, would float afar off down the valley. It was while one of these floating clouds was sweeping between us and the Carter mountains, that we perceived at first the faint tracery of a rainbow, which gradually developing itself, expanded into full perfection, with this exception only, that instead of being arched it formed a perfect circle, apparently about fifty yards in diameter. Suddenly, to our inexpressible amazement, we beheld our own figures photographed as it were on the misty back ground which formed the center of the rainbow. So distinct and perfect were the representations that each one of the party readily recognized their individual figures. Arms, hats and shawls were freely waved by the party; fingers, expanded, and instantly each motion was responded to by figures in the clouds. This phantom-like picture lasted about a minute, and then was gone."

The figures of the party were, as will be noticed, directly in the line between the "misty back ground" and the setting sun, whose rays were thus intercepted. The mountains beyond served as the coating of the mirror. The same appearances have, we believe, been witnessed in the Catskill mountains. The famed "Spectre of the Brocken, the highest summit in the Hartz mountains, was a source of superstitious fear with the German peasantry, to whom it furnished the subject of a legend. A gigantic human figure, believed to be a diabolical portend, was at times visible. Science has explained it as the image of the observer's own figure, produced by refraction and reflection; and occurring whenever certain atmospheric conditions and a certain elevation of the sun coincide.

INSECT WAX.—We clip the following paragraph from the *Farmer* (Scottish): "The trade in this article in China is large. In 1864, from the single port of Hankow alone 5,100 cwts. were exported. It is taken by the Chinese as medicine, but is principally used as stearine in the manufacture of candles. It is one of the most valuable of the many products of Sze-Chuen, being worth sixty and seventy taels per picul (133 lbs.). The wax is deposited, for the protection of its eggs, by an insect which inhabits the trees on which the wax is secreted. The formation of the wax was a subject which occupied the especial attention of M. Simon, a French savant, who, a year or two ago, passed a considerable time in the interior, during which he is said to have traversed the greater portion of Sze-Chuen, and to have reached the eastern confines of Tibet. It is to be hoped the result of his researches into the products of the former fertile province will ere long be made public."

REVOLVING FIREARMS.—The New York *Artisan*, in copying the story of the ancient revolving pistol, which Col. Colt once saw with feelings of great surprise in the historical collection at Dresden, (which account has also appeared in this paper), adds the following: "In the World's Fair at the New York Crystal Palace, in the year 1853, there was exhibited a collection of ancient weapons from the Tower of London; and among them was a revolver like that above described and of about the same age. Col. Colt's patent was out for the revolving cylinder, but for making it self-revolving by the act of cocking the hammer."

WATER, in passing from the solid to the liquid state, converts 140 degrees of sensible into latent heat; in passing from the liquid to the aeriform condition, it absorbs 1,000 degrees of heat, rendering it latent. Alcohol, in evaporating, absorbs 374 degrees of heat; ether, 163 degrees; and spirit of turpentine, 138 degrees.

VALUE OF KNOWLEDGE.—Knowledge is the true alchemy that turns everything it touches into gold. It gives us dominion over nature, unlocks the storehouse of creation, and opens to us the treasures of the universe.

Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

O. W. M. SMITH. W. B. EWER. A. T. DEWEY.
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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING and SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. O. P. Truedell will act as our Corresponding Agent and Solicitor in the interior of this State, from this date August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
SAN FRANCISCO, Jan 11th, 1866.

San Francisco:

Saturday Morning, Oct. 20, 1866.

NOTICES TO CORRESPONDENTS.

OWING to the large amount of correspondence received relating to interesting points connected with Mining, Metallurgy, Mechanics, etc. we are compelled, for want of time and space, to reply briefly in the following form to a portion of such queries as are of general interest.

T. Y. WASHOE.—The change which you have frequently observed in quartz rock, at the waste heaps of several mines at Washoe, and some of the adjoining mining districts, arises from the presence of phosphate of iron, which is known to mineralogists under the name of "vivianite." It is found even more abundantly than in your neighborhood, as an accompaniment of many of the gold mines of Central America—the Purima is particularly noted for it. Vivianite, or blue iron ore, is supposed to obtain its peculiar color in consequence of the conversion of a portion of the oxyd of iron into peroxyd by exposure to the atmosphere, as the phosphate of the peroxyd of iron is white. Gmelin relates that a pit in a town had been filled for centuries with heaps of bones, wood, gneiss, etc. On the carbonized pieces of wood, and likewise on the micaceous laminae of the gneiss (which contained iron), but not on the other constituent of it, were seen white crystals of ferrous phosphate, which turned blue on exposure to the air. According to Schlossberger, some iron nails in the stomach of an ostrich, and partly enveloped in black animal matter, became covered, after several days exposure to the air, with blue spots, which appeared to arise from the formation of triphosphate of ferrous oxyd. Hardinger mentions the occurrence of crystallized vivianite in the hollow of a bone in the skeleton of a miner found in an old working at Turnowitz. We would like to be informed whether this substance is found more abundantly near the surface, or in the deeper workings, as the prevalence in one part as compared with the other, would probably lead to satisfactory evidence as to where and how the phosphoric acid has been derived. Had competent men been employed in the superior and better paid positions at the principal Washoe mines, this and many other interesting subjects would long ago have been fully elucidated; and economic advantages would probably be derived therefrom, to say nothing of its great scientific interest.

AN ARTISTIC STUDENT.—The difference is very great between Roman and Tuscan mosaic. By the way, we may remark that the latter is more generally known under the name of "Florentine," from the city of Florence, where this art is most practiced and better understood. Roman or ordinary mosaic work may consist of pictorial illustrations, composed of square pieces of colored paste or baked earth, which, when arranged, possess more or less the general aspect presented by similar delineations formed by ladies in what is called "Berlin wool." The coarser kinds, such as tessellated pavements for baths, were much patronized by the ancient Romans. Portraits and architectural representations are, however, made, in which the material employed are of microscopic minuteness. Such sometimes employ several artists for years, the cost of which occasionally reaches \$10,000 for a picture not covering more than five square feet. The Florentine mosaic is of quite a different character, and has two varieties, the more common being formed of artificially prepared enamels; the finer kind, known as *pietra dura*, is composed wholly of natural stones and gems. Flowers and bouquets are the objects usually imitated in this kind of mosaic, some of which, in *pietra dura*, are admirable specimens of artistic skill and taste. Ornamental tables and cabinets are the subjects usually made use of to exhibit the highest specimens of skill in this art, the value of which may be conceived when we mention that a table thirty inches in diameter, so ornamented, not unfrequently obtains \$4,000. The rich brilliancy of color exhibited by flower and foliage, can in no manner be so well represented as by highly polished natural stones. In nothing is patient, artistic skill so well exemplified as the occasional introduction of a partially faded leaf or flower, represented by the insertion of a polished stone undergoing decomposition at the edge.

MINING STATISTICS—THE PACIFIC COMMISSION.

The advantage of the wise provisions established by the English Government for the collection, preservation, and promulgation of general statistical information, is no where more apparent than in the reports annually prepared by Mr. Robert Hunt, giving in detail a practical exhibit of the progress and condition of the mineral resources of that country. One of the most important and practical deductions to be drawn therefrom is the annually increasing evidence derived from the statistics furnished, that the might, wealth, and influence of the British commonwealth is traceable directly to this branch of her national industry. It may, perhaps, be claimed that her prosperity is more especially referable to the magnitude of her manufacturing operations; but without her mineral deposits—her coal, her iron, her tin and her copper—what would become of her manufacturing importance? Iron supplies her metal for machinery, and her means of national defence, and coal furnishes her fuel for steam power; on these two elements, almost exclusively, rests her greatness in manufactures, and the magnitude of her power in the world of labor.

These annual exhibits of her mineral productions are mile-stones marking her progress, and afford the best possible data from which to regulate her governmental policy with regard to the mines. The long series of years during which these records have been kept, have fully proved their utility, and should stimulate our own Government to take adequate measures for securing the same class of information as a basis on which to regulate its mining legislation. The want of full and reliable statistics on mining has long been felt by reflecting minds throughout the United States; and it is a matter of no little astonishment that no extended systematic effort has yet been made to secure this class of information. All that is attainable, up to the present time, is inadequate, intermittent, and unreliable.

With regard to mining on this coast, while it was confined chiefly to placers and rivers, and carried on by a great number of persons laboring independently, reliable information was almost unattainable, even by Government agency; but now, when placer mining has become systematized, and when quartz mining is the leading branch of that industry, requiring capital, business habits, and detailed accounts of expense and income, it is comparatively easy to collect the information needed. Congress, too, seems to have finally awakened to a slight appreciation of the importance of the matter, and, at the earnest solicitation of the Secretary of the Treasury, has appointed J. Ross Browne, the world renowned tourist, to gather a few preliminary facts, which, let us hope, are to be made the grounds of a more extended and enlightened effort in this direction. The present Commission, however, is confined to the Pacific coast, and placed in the hands of a single individual, with limited means at his disposal; when the movement should, in reality, assume the importance of a regular Bureau, with its head at Washington, and its agents scattered over a field as wide as the national domain.

We have already given the general plan of operations contemplated, as set forth in the Letter of Instructions to the Commissioner, and which we published in our issue of September 8th. We understand that the Commissioner has entered actively upon the field of his labors, and has already obtained a large amount of valuable information, which will be gradually increased and reduced to a proper form for presentation, in the shape of a report, at an early day of the approaching session of Congress. Secretary McCulloch has taken a deep interest in the matter, and seems solicitous that the fullest and most reliable information attainable should be collected; believing that it will be highly conducive to the public interest, and of peculiar and personal value to the miners themselves. We hail this action as an important step in the right direction.

MINERAL PRODUCTION OF GREAT BRITAIN FOR 1865.

The report on the mineral statistics of Great Britain for 1865, arranged under the direction of Mr. Robert Hunt of the British Museum of Practical Geology, has been published, and shows a most remarkable increase in the production of coal during the past year. Sir Roderick Murchison, speaking of this report, says: "It gives a more correct view of the progress of our coal and iron industries than any statement which has hitherto been published." There is a reported increase of 5,362,000 tons of coal over the product of any previous year. We condense from the report as follows:

COAL.—The amount of coal produced reaches the enormous total, in round numbers, of 98,000,000 tons, of which 84,000,000 were consumed at home, equal to 3½ tons per head of population. Of this last amount 28,000,000 was used exclusively for making iron. The amount of coal produced in Great Britain in 1861, was a little short of 78,000,000; showing an increase of 20,000,000 in four years. This increase has been very nearly uniform, proving that it will in all probability be continuous in time to come—a most significant fact when considered in connection with the now quite generally received theory of the rapid exhaustion of the English coal fields. That the stoppage of the export of coal from Great Britain will go but a very little way towards preventing the anticipated calamity, may be inferred from the fact, that out of the ninety-eight millions of tons raised the past year, but a small fraction over nine millions found a foreign market. The home consumption of Great Britain is greater than the total yield of all the world beside. The figures of the coal production of the United States, when compared with those of Great Britain, appear ridiculously small—fourteen and a half millions against ninety-eight millions!

IRON.—The amount of iron ore raised was, in round numbers, 10,000,000 tons, which produced 4,820,000 tons of pig iron, showing an average yield of ore of 48 per cent. The ore raised was used to feed 656 blast furnaces. No less than 6,487 puddling furnaces were employed to provide wrought iron for 730 rolling mills, to put the iron into commercial shape. Of the 4,820,000 tons of pig iron produced, only 543,000 tons were sent out of the country in that condition.

TIN.—The quantity of tin ore produced was larger than that of any previous period, and amounted to 16,686 tons, from which 10,039 tons of metallic tin was obtained, showing an average yield of a fraction over 60 per cent., a larger figure, we presume, than is generally set down for the per centage of the tin ore of England. The quantity of ore raised the past year exceeds that of any previous year; and yet, for reasons elsewhere given in this issue, there is a strong probability that the days of tin mining in Cornwall, which have continued for over 2,000 years, are nearly numbered.

COPPER.—The copper mines of Great Britain have produced 198,298 tons of copper the past year, which has yielded 11,888 tons of metal, showing an average yield of 5.9 per cent.; and this, it should be recollected, is reported ore. This low average is very significant, when taken into account with the very high average of our California copper ore, none of which can be made available here until it reaches nearly double the average yield of the English ore. The production of the British copper ores has been for some time steadily declining, not only in quantity, but also in quality. The price of average Cornish copper ore was \$30.62 per ton in 1856; at the date of the making up of these statistics, it had fallen to \$23.75. The import into Great Britain of foreign and colonial copper ores and regulus, during 1865, was very large, reaching 82,562 tons of ore, and 39,686 tons of regulus; while cake and manufactured copper had also been very large.

LEAD.—The total amount of lead ore raised was 90,452 tons, which yielded 67,181 tons of lead—an average of 74 per cent., showing a

very high grade of ore. The amount of silver realized from this ore was 724,856 ounces, or a fraction over \$8 in silver to the ton of ore.

ZINC.—The ores of this metal—blende, a sulphuret of zinc, and calamine, a silicious oxyd of the same metal—have been raised more freely the past than previous years, owing to a slight advance in the price of the ores. The amount of 17,842 tons of zinc ores were raised in 1865, against 15,041 in 1864. These ores yielded 4,450 tons of metallic zinc, indicating an average of 25 per cent.

GOLD.—The gold yield of Great Britain for 1865 is set down as follows:

	Ounces.
Vigra and Cloran.....	532
Welch Gold Mine.....	577
Castell Carr Dochan.....	587
Castell Carr Dochan.....	8
Gwynnysydd.....	8
Cwmhelian.....	8
Total.....	1,670

The gold yield of 1864 was 2,336 ounces; of 1863, 5,299 ounces. This makes rather an unfavorable exhibit for the future of gold mining operations in Great Britain.

SILVER.—The only silver reported is that derived from the argentiferous galena, above reported at 724,856 ounces.

SULPHUR. to the value of \$355,870, has been obtained from 114,195 tons of iron sulphurets raised and worked.

BARYTES. to the extent of 6,768 tons have been produced. This mineral is largely used to mix with white lead.

ARSENIC.—A return of 826 tons of the white oxyd of arsenic is made, which was reported from other ores at the metallurgical works in Cornwall.

TOTAL VALUES.—The total values of the products of the mines of Great Britain for 1865, are set down, in round numbers, as follows: Metals obtained, \$78,900,000; of which \$58,800,000 was represented by iron; coal, \$122,500,000, receiving its value at only \$1.24 per ton; earthy minerals (not including ordinary clays or building stone), \$7,200,000—making a grand aggregate of \$208,600,000.

DABOLL'S FOG TRUMPET.—C. L. Daboll, of New London, Connecticut, the inventor of the fog trumpet, sends a communication to the *Alta*, in which he says that the power used is Mr. Ericsson's caloric engine, and not steam, as has been supposed. The *Alta* publishes several certificates to the remarkable efficiency of this trumpet, from shipmasters and pilots in the Eastern States and in Europe. Its blast can be heard for fifteen miles. Professor Faraday, as chairman of a Committee appointed by the English Government to test its process, reported it vastly superior to any other signal. The Pacific Mail Company has ordered one to be placed at Point Lobos. It is now on the way to this coast, and we presume our citizens will, ere long, hear it speak for itself.

HERMAN EHRENBURG was killed by Indians a few days ago on the road from San Bernardino to La Paz, Arizona. He was well known in California and Arizona as an adventurous and energetic mining pioneer. He was born in Germany. In 1836 he was one of a party of Texan soldiers who surrendered to the Mexicans as prisoners of war; but who were, in violation of the terms, condemned to be shot. When the fatal volley was fired, Ehrenberg found himself to his surprise uninjured. He started to his feet, and, under cover of the smoke, gained such an advance before he was noticed, that he ultimately escaped. He came to California in 1847. In 1850 he discovered the mouth of the Klamath river. At the time of his death he was engaged in mining in Arizona.

HON. J. W. DWINELLE'S ADDRESS.—We have received, from Louis R. Lull, Secretary, a copy of the address delivered before the Society of California Pioneers, on the occasion of their sixteenth anniversary, September 10th, by Hon. J. W. Dwinelle. It is a most interesting pamphlet. It notes, in elegant and scholarly style, the salient points in the history of California, from the Pope's grant of land to Spain to the time when she became a member of our Union. The same information can nowhere else be obtained in such succinct form. We shall preserve the address with care in our Library.

INTERESTING MILLING EXPERIMENTS.

The utility of roasting or thoroughly calcining auriferous quartz containing any considerable quantity of sulphurets, has been fully exemplified in a recent trial of some rock from the Enterprise mine at Meadow Lake, Nevada county. We are informed that the company had a lot of about 100 tons of rock at the mouth of their mine, the most of which, some fifty tons, was worked at their own mill, and another small lot was sent to Winter's mill near by. The last lot yielded a fraction less than \$9 to the ton; the first yielded about the same amount. Nine and a half tons were subsequently sent to the Pacific Ore Company's Works, at Grass Valley, where the rock, previous to being crushed, is subjected to a roasting process, in bulk, in one of Hagan's desulphurizing furnaces, in which the quartz is submitted to the double and prolonged action of dry heat and steam, while in the furnace. After roasting, it is passed through a stamp mill and pan process. This mode of treatment realized \$28.52 per ton, more than three times as much as was obtained from the same quantity of rock without roasting.

The gold proved to be 961½ fine—an unusual quality of fineness for quartz gold. It is proper to state in this connection, that the process of delivering the pulverized quartz from the battery, adopted in the above crushing, was the same as that which is spoken of below as having been first proposed and practiced by Mr. E. T. Steen, at his mill near Volcano.

The sulphurets found in this mine contain a very large percentage of arsenic. The tailings saved from the fifty tons of rock, crushed as above at the company's mill, were subsequently concentrated down to about three tons, a sample of which was subjected to an assay in this city, which returned 45 per cent. of arsenic.

In connection with the above, we would state that Mr. E. T. Steen, at his mill near Volcano, Amador county, being satisfied that he was losing a large amount of fine gold in the water which passed off from his battery, recently adopted the novel expedient of raising his sieves about an eighth of an inch from the surface of the apron, and then feeding in only so much water as would be required to place the pulverized quartz in a pasty condition as fast as it was reduced. The result was that the pulp, instead of passing through the meshes of the sieves, was gradually forced out through the longitudinal opening beneath the sieves, into a proper receptacle, from which it was shoveled into the pans and treated in the ordinary manner. A very small quantity only, of coarse grains of quartz, as large as could pass through the opening, were found in the pulp, and these were readily reduced in the pans. The advantage gained by this device, must be the saving of the fine gold that is lost by the rush of water usually employed. If the quartz can be successfully discharged from the battery in this manner, its advantage is obvious, and is much preferable to running into tanks in all cases when any free discharge of water is allowed from the tanks. This method of discharge, we are informed, has been successfully tried at the Pacific Ore Company's Works in Grass Valley. The experiment might be easily made at any mill. If successful, and if the discharge can be as readily made, it must give all the advantages of dry crushing, without any of the inconveniences of the dust arising from that process. The pulp can be quite as easily handled as when dry or merely moistened with water.

As one evidence, out of numerous others which have repeatedly been reported to us, relating to the great loss of gold with the rush of water from the ordinary stamping mill, we will give the following as stated to us by one of the parties connected with the Pacific Ore Company's Works, above alluded to. A large quantity of quartz, containing a considerable amount of sulphurets, was finely pulverized, thrown into a tank and thoroughly saturated with water. The black scum, which will at ways float for a long time upon water under such conditions, was carefully skimmed off,

until an amount which, when dry, weighed three pounds, was accumulated. This material was then submitted to a careful hand process of treatment, and yielded at the rate of \$1,200 per ton! This is no isolated case; as we have heard of scores of similar experiments, all going to show the wasteful character of the usual treatment of gold quartz. Settling tanks are no guard against this waste, when any portion of the water is allowed a continual flow from the mill.

[Reported for the Mining and Scientific Press.]

California Academy of Natural Sciences.

REGULAR MEETING, Monday, Oct. 15, 1866. Dr. Kellogg in the Chair. Eleven members present.

Mr. Albert L. Bancroft was elected a resident member.

Dr. J. Morrison and Rev. S. D. Simonds were proposed for resident membership; Dr. Wm. P. Gibbons, of Alameda, was proposed as a corresponding member.

Donations to the Library—W. A. Good-year's Translation of Bodemann and Kerl's Treatise on Assaying—presented by the translator.

Prof. W. P. Blake submitted the following mineralogical notices, which were read and referred to the Publishing Committee:

1. *Kerargyrite*.—Chloride of silver occurs in thin crusts, on gold-bearing quartz, in the Morgan gold mine, Carson Hill, Colaveras county. This vein is in the main gold belt, and is regarded as a part of the chief gold vein of the State. It is noted for the massive specimens of vein gold which it affords. The association of chloride of silver with the gold is novel, and has not been before observed by myself or others to my knowledge. A little galena occurs in the same vein, and in another part of it, gray copper ore, probably argentiferous, occurs sparingly, and may be the source of the chloride of silver. The crusts are about the thickness of an ordinary visiting card, and when freshly cut or scraped have a delicate pearl-gray color, which speedily changes to purple in the sunlight.

2. *Wulfenite*.—Molybdate of lead occurs in the argentiferous lead ores of the Empire mine, Inyo county, Cal. It is in crusts and seams about one-eighth of an inch thick, and is associated with galena, cerussite, malachite and chrysocolla. The contrast of the brilliant yellow color of this species with the masses of green silicate of copper, renders these specimens very beautiful and desirable for cabinets.

Sulphuret of Silver.—This mineral is found in ragged masses, matted with quartz crystals, and associated with free gold, in the "Silver Sprout" vein, Kearsarge District, Sierra Nevada.

Tungstate of Manganese.—I have received from Mr. Ewer fragments of a mineral from Weston, Nye county, Nevada, which appears to be tungstate of manganese. It is in radiating prismatic crystals; color, dark olive-green; high specific gravity, and before the blow-pipe gives reactions of tungstic acid and of manganese.

Specular Iron.—Mr. Bennett, of Durango, Mexico, has sent me some interesting crystallizations of specular iron ore, associated with oxyd of tin, from the tin washings of that place.

Pyromorphite, Cerussite, Galena, Tetrahedrite and Red Copper occur together in the Chicago vein, Shasta county, California.

Mr. Stearns read a paper on the death of Mr. Kennicott, accompanied with appropriate resolutions, which was referred to the Publishing Committee, from which are appended the following extracts:

It is my painful duty to inform the Academy of the decease of Robert Kennicott. The meager information received furnishes no particulars further than that he died suddenly, in the month of May last, at Milato Bay, in Russian America.

The services rendered to science by Mr. Kennicott are worthy of something more than a passing notice. In the month of May, 1849, we find him starting on a prolonged exploration of Russian America, under the auspices of the Smithsonian Institute, assisted by the University of Michigan, the Audubon Club of Chicago, and the Chicago Academy of Sciences. This exploration included also the territory occupied by the Hudson Bay Co., extending from May, 1859, to October, 1862. * * * Aside from the extensive collections in every department of natural history, the geographical information acquired by Mr. K. was also of the greatest importance. The Western Union Telegraph Co. having determined to post their wires so as to connect the old world with the new, by an overland line, passing through Russian America, thence to the central cities of Europe, the knowledge possessed by Mr. K. of a part of the territory through which the proposed line was to pass, made his services indispensable to the company. He was sought out, and his co-operation

at once secured. He entered upon this duty, hoping not only to do whatever lay in his power to make this enterprise a success, but hoping also to still further serve the great cause that was so dear to him; and while thus engaged in the zealous and enthusiastic performance of duty, in the prime of life, he has passed away. I move, Mr. President, the adoption of the following resolutions:

Resolved, That the California Academy of Natural Sciences have learned with the deepest regret of the untimely death of Robert Kennicott, and deplore the loss of one whose labors in the service of science entitle him to the grateful remembrance of his fellow-men.

Resolved, That we extend our heartfelt sympathy to the family and friends of the deceased.

Resolved, That a copy of these resolutions be forwarded to the family of the deceased, and to the Chicago Academy of Sciences, of which he was a prominent officer and an energetic member.

TEAS FOR NEW YORK VIA SAN FRANCISCO. The steamer Golden City, which sailed yesterday for Panama, took some twenty tons of Japanese teas for New York. This is but the beginning of a heavy business which must eventually grow up in this direction. When the Overland Railroad is completed, all lighter and more valuable productions of China, Japan, and the East Indies generally, for both Europe and America, must pass through San Francisco. The saving of time, interest, and insurance on this, over the Cape Horn or Cape of Good Hope waters, must become largely in favor of the proposed Continental route, and will, eventually, make San Francisco the greatest *entrepot* in the world.

GALE'S NON-EXPLOSIVE POWDER.—It is stated in the English papers, that Mr. James Gale, the inventor and patentee of the process of rendering gunpowder safe from explosion by mixing it with pulverized glass, has sold his invention to a company of capitalists for \$150,000 in cash, and an interest in the enterprise in addition. The company has not only undertaken the preparation of the non-explosive, but also include in their enterprise that of carriers of the article; taking contracts at the same rates as non-explosives of the same weight and bulk, thereby saving enormously, for shippers, in the cost of transportation. These facts, if they are such, look very much as though Gale's process was about to be accepted, in England, at least, as a practical reality.

PACIFIC HYGIENIC HOME WATER CURE, at Fountain Farm, near Oakland. Chartered and conducted according to the teachings of the Hydropathic College of New York, by the Pacific Hygienic Home Association (incorporated), B. J. SMITH, M. D., Consulting Physician; R. S. MACBETH, M. D., Attending Physician; W. G. W. HARBORN, Manager; H. ANDREWS, Business Agent. Office, Baths and Lecture Hall, No. 627 Sacramento street, between Montgomery and Kearny streets. Free Lectures every Tuesday and Friday evenings. 16v13-1f

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"To all whom it may Concern."

ALL PARTIES negotiating for interests in the above Lode, would do well to examine titles before investing, as the legal title to a considerable portion thereof is vested in the undersigned.

WILLIAM MARSH,
W. L. KENNEY,
Keyville, Kern County, Oct. 1, 1863. 16v13ur3m

To Miners and Families Living in the Country.

DR. BOYNTON'S MEDICINE CHEST, is put up in San Francisco expressly for the use of families, and consists of a chest of moderate dimensions, neat in its appearance, containing those household articles, simple remedies, that families always feel like keeping on hand for immediate and common use, and a book of brief instructions, describing their use.

The object in preparing this Chest was not to make doctors, but for the simple purpose of nursing; hence, a majority of the remedies are such as are familiar to nearly all who are advanced in life, and the book is simply a representation of those plain truths relating to the department of the nurse already set forth in more extensive works. It was the object, not to say many things, but to say few things—to simplify and make plain for common use. And in selecting the contents of the Chest, the object was not to set forth something new and wonderful, but those of old and acknowledged worth.

In view of the above facts, physicians have everywhere encouraged the circulation of this chest in unmistakable terms. They recognize the fact that families do not, will not, need not call on them on the occasion of every slight derangement or infirmity. They do not and cannot deny the fact that such obligations of home cure rest upon heads of families.

The book gives a description of nearly every medicine in the collection, their use, and their component parts, so that every person may know what he is receiving into his stomach or applying to his person. This openness and frankness is regarded by the best practitioners, and all considerate persons as justice, more than policy. The universal conviction of the more thoughtful is, that that which relates to our health and physical well being in this life should, above all things, be known, and not kept in the darkness of secrecy.

In introducing this chest in the country, we always first submit it to the criticism of practicing physicians, and feeling the importance and seeing the necessity in this sparsely settled country of home-nursing, and seeing the adaptability of this chest, physicians in San Francisco, Sacramento, Stockton, Knight's Landing, Cuckeyville, Marysville, Colusa, Oroville, Lincoln, Folsom, and Auburn, have given it their hearty sanction. Seeing the necessity on the coast of people relying upon themselves in such matters, physicians in this State have remarked: "If I could choose but one for a family, I would every time choose the nurse instead of the physician." "If families would get a collection of simple remedies, with plain instructions for their use, they would do away with half the doctoring." "All families should possess themselves of a collection of common remedies, with plain instructions for their use." "I would like to see the chest in every family." "It is a convenience." "It is useful." "Much sickness and much expense might be saved by such home cure."

We subjoin the following statistics from Sutter County, California:

"The undersigned have had Dr. Boynton's Medicine Chest in their families for the last few months, and willingly state that they regard it as a wise provision, strictly practical and highly useful."

Every person having the chest in the above named county has signed the above article. The publishing of the names being unnecessary, we withhold them and save space.

The undersigned have known Dr. Boynton's Medicine Chest for the last few months, and regard it as a wise provision, and highly useful in every family. The medicines being put up with instructions, its utility, convenience, and great economy are unquestionable.

Signed by Judge HURLBURT and 45 others.

STATE OF CALIFORNIA, } ss.
County of Sutter,
I, C. E. WILCOX, County Clerk in and for said County, hereby certify that I am personally acquainted with a majority of the individuals whose names are subscribed to the foregoing certificates, and that they are good and substantial citizens of said county.
Witness my hand and official seal this 27th day of [L. S.] December, A. D. 1865.
C. E. WILCOX, County Clerk.

Agents wanted in every County to sell this Family Chest. Their compensation will be a liberal commission on all sales. The Agent should be a resident of the district which he is to canvass, and accompany his application with good references, and of this city if possible.

We can give further particulars when desired.
All letters should be addressed through the post office, to
E. NORRIS,
12v13ew8p9 San Francisco.

GOLD AND COPPER MINES!

Quartz Lends and Gravel Claims!

In various localities. For sale by

E. W. MUDGE,
16v13-5w 528 Clay street, San Francisco.

FOR SALE!

QUARTZ AND MINING MACHINERY.

ONE GARDNER'S THUNDERBOLT CRUSHER, LARGEST size and best quality; is entirely new, with all extras, with a large lot of other Quartz Machinery, including Engines, Boilers, etc.
16v13 COFFEY & RISDON.

THE MINING AND SCIENTIFIC PRESS, published by Dewey & Co., San Francisco, should be in the hands of every miner. It gives every week information that is indispensable to the proper prosecution of mining. Every miner can avail himself of the latest improvements by subscribing for it.—(Havilah Courier, Oct. 13.)

THE BUENA VISTA PETROLEUM COMPANY.—A letter to the Stockton Independent gives the following account of the operations of this organization:

The company was organized and incorporated in February, 1864, with a capital stock of \$8,500, divided into 850 shares. In 1865 the stock was increased to 1,700 shares, of \$1,000 each. The company, by assessment, procured the present machinery, and erected works on their claim capable of producing 5,000 gallons per month of marketable oil.

The first run was made about the 10th of August, and produced 800 gallons of burning and lubricating oil, which has been tested in various parts of the interior and proved to be a good article. The company are at present producing and shipping oil which compares favorably with any Eastern oil.

The quantity of crude oil is immense; yields 40 per cent. burning oil and 50 per cent. lubricating at a depth of only twenty-three feet from the surface. The facilities for shipping are such that the refined oil from the Buena Vista works can be laid down in San Francisco at the same cost as crude oil from San Buenaventura, and less than from Los Angeles. The yield of the springs is unprecedented in the State, and the quality is second to none. The stock has never been placed in market for the benefit of "bulls and bears," but is mostly held by original locators, and all the money which has been expended has been raised among the stockholders.

The company believe that by increasing their distilling works, the next year they will be able to place in market a sufficient quantity of oil to stop, to a great extent, the shipments from the East, and to make it one of our staple products.

The works are under the superintendence of W. O. Sleeper, of Columbia, and Hughes & Keys, of Stockton, are the authorized agents of the company.

THE CHEMICAL CONTENTS OF A CUP OF TEA.
The cup of tea we drink, according to chemical analysis, contains volatile oil, chlorophyll, wax, resin, gumi, tannin, theine, extractive, apotheme, albumea, sulphur, phosphorus, chloride of potassium, oxyd of iron, carbonate of magnesia, manganese, and silica—twenty different articles. The peculiar flavor of tea depends on the volatile oil, which is lighter than water, and has a lemon-yellow color and the smell of tea. Liebig is of the opinion that tea is not only an astringent and diluent, but possesses nutritive properties of no mean kind. A great deal of profound chemistry is connected with the subject of theine as it exists in tea, and caffeine in coffee; both of the same property, or substance, contained in dissimilar vegetable productions—the leaves of one tree and the berries of the other. Tea and coffee act upon the nerves and upon the brain, and have a quickening and refreshing influence; but taken in excess result in excitement prejudicial to sleep and rest. Green tea is considered more injurious to persons of a highly nervous temperament than the black. *Chemical News.*

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S

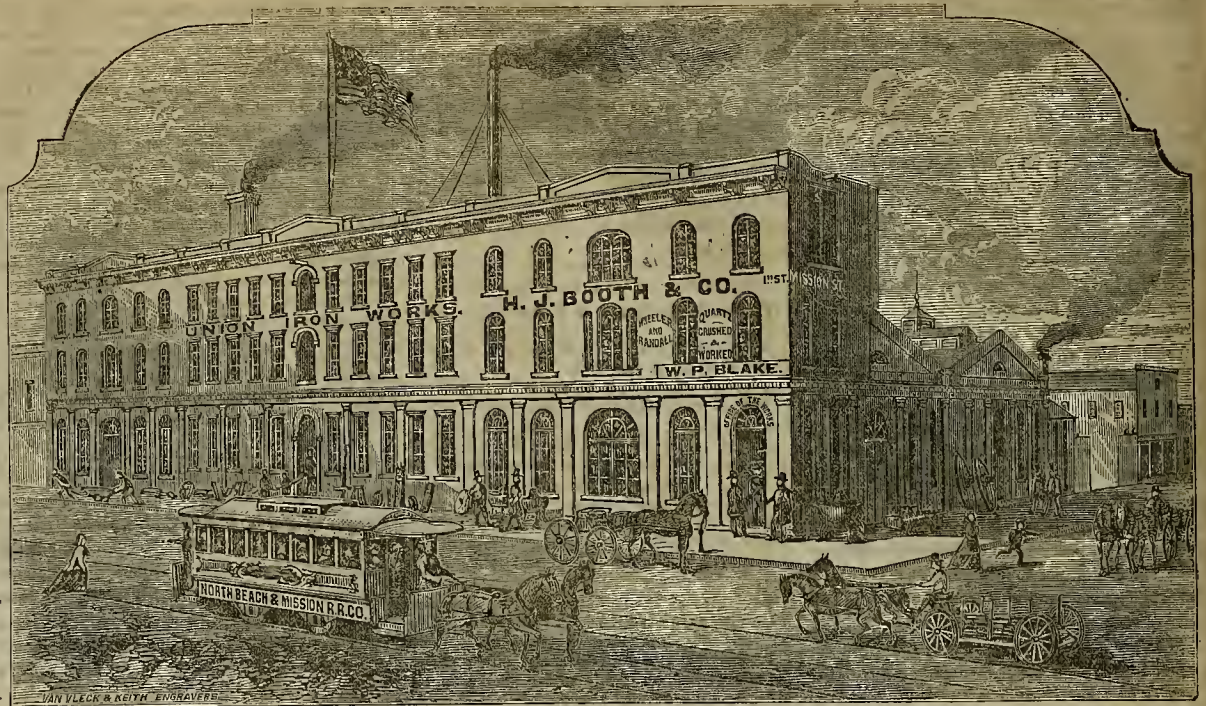
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10q-1f

F. N. BACON. LINAS STEWART.
BACON & STEWART,
PRACTICAL MACHINISTS,
No. 51 Beale Street, San Francisco.

All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING PRESS work.
All jobs entrusted to us will be attended to with promptness and on reasonable terms. The patronage of Printers is respectfully solicited. 13v10q-1f



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HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hay Rags, Screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.
ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fly Engine.
BOILERS.—Locomotive, Flat, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.
PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.
Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.
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H. J. BOOTH & CO.

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MACHINE WORKS,
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And Quartz Machinery, Printing Presses,

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MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.
Special attention paid to Repairing. 13v10q-1f

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or no charge. The only establishment in the State.
We also manufacture Reamer and Taper Sections.
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LEWIS COFFEY. J. S. RISON.
LEWIS COFFEY & RISON,
Steam Boiler & Sheet Iron Works.

The only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality.
Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

GLOBE
Foundry and Machine Shop,
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KEEP, BLAKE & CO.,
MANUFACTURERS OF
Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed. 13v13-1y

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERRECTED, in this city, on Fourteenth Street, near the shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest on this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 13v12-3m

Our Patent Agency.

The Patent Agency of the Mining and Scientific Press has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of Letters Patent from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trust, will take care to afford inventors every advantage to be secured to them through a competent and reliable agency upon this coast. 13v12-3m

J. O. HANSCOM } **HANSCOM & CO.,** { T. PENDERGAST.
H. S. SMITH. (W. W. HANSCOM.
Etna Iron Works!

Southeast corner Fremont and Tehama streets,
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Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER.
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and Amalgamator,

Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,
Giving greater power, at lower cost, than any wheel in use. Send for one of our circulars, giving full tables.
All Wheels warranted to give the power as set forth, or the money will be refunded.

Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies."

None genuine unless obtained from us. Every one warranted.
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited. 13v12

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,
MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,
Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

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NEPTUNE IRON WORKS,
Corner of Mission and Fremont Streets,
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MARINE,
Locomotive,
And all kinds of
HIGH PRESSURE
Steam Boilers
MADE.

All Boilers guaranteed and tested by U. S. S. Boiler Inspector before sent out of the Shop, at Shop expense.

All kinds of Sheet Iron and Water Pipe, Coal Oil Shafts, Wrought Iron Worms, etc., etc. Manufactured to Order.
Old Boilers Repaired
D. CAMERON.
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UNION IRON WORKS,
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WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF

STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston Packing, for new and old cylinders, manufactured to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

SAN FRANCISCO
Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of

Marine and Stationary Engines'
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Cider, Cotton and Tobacco Presses of the latest Improved Patterns.
Brodie's Improved Patent WIND BLAST SEPARATOR, for Dry Crushing; Bux & Guld's Amalgamator and Separator; Coal Oil Well Boring Machinery complete, on hand.

STEAM ENGINES AND BOILERS,
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

MACHINERY OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.
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No. 226 Fremont St., bet. Howard & Folsom
All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S
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Beale Street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 25v12-3m

THE DECADENCE OF BRITISH TIN MINING.—There is one branch of industry, connecting modern civilization with that of the ancients more remarkably than any other, which has existed in the same spot from 500 years before the birth of Christ to the present day, but now appears likely to be laid aside—eaten out by its own industry—viz: tin mining in Cornwall. During all this period, Cornish miners have continued working incessantly, with few or none of those violent interruptions of foreign races which have changed the social character of most other parts of Great Britain. Some, perhaps, were offered in sacrifice, enclosed in the wicker work idols of the ancient Britons; some were taken to serve in the Roman legions; and some died under the banners of Prince Arthur and the Knights of his Round Table. They have listened to the teachings of the Druids, of the Christian missionaries from Rome, of the Lutheran reformers, but their hands have kept incessantly at work with pick, and gad, and drill, conserving and using the ideas of their ancestors as if endowed with a mining instinct. But "all things have an end." This occupation is at length to be reckoned among the things that were. It is being swamped by an overflow of tin from the recently worked deposits at Banca, the extent whereof no one seems to know, but the produce of which continues to flow in, leaving a profit to the Dutch traders of \$168 per ton when selling at \$553, a price which nets the Cornish miner a loss of \$70 per ton! They cry aloud for protection; but free trade has so long prevailed in England, that we think they cry in vain. The Cornish tin miners' occupation seems then to be gone. To go out to the Banca tin mines and compete with the Chinese and other rice-eaters who work for 12½ cents and less per day, is out of the question. Hence there seems to be no help for them but discontinuing an industry which has ceased to be profitable and betaking themselves to copper or other mining operations.—*Am. Journal of Mining.*

ORIGIN OF THE SIGNS + AND —. A recent writer in the *London Athenaeum*, gives the following as the origin of the signs + and —. He says: The first of these signs is a contraction of *et*. The course of transformation from its original to its present form may be clearly traced in old MSS. *Et* by degrees became &, and & became +. The origin of the second (—) is rather more singular. Most persons are aware that it was formerly the universal custom, both in writing and printing, to omit some or all of the vowels, or a syllable or two of a word, and to denote such omissions by a short dash, thus —, over the word so abbreviated. The word *minus* thus became contracted to *mins*, with a dash over the letters. Alter a time the short line itself, without the letters, was considered sufficient to imply subtraction, and by common consent became so used. Hence we have now the signs + and —. [*Annual of Scientific Discovery.*]

FIRST PREMIUMS!



FOR PRINTING,
AWARDED AT THE
MECHANICS' INDUSTRIAL EXHIBITION

SAN FRANCISCO, 1865,

—AND AT THE—

State Fair at Sacramento, 1865,

—TO—

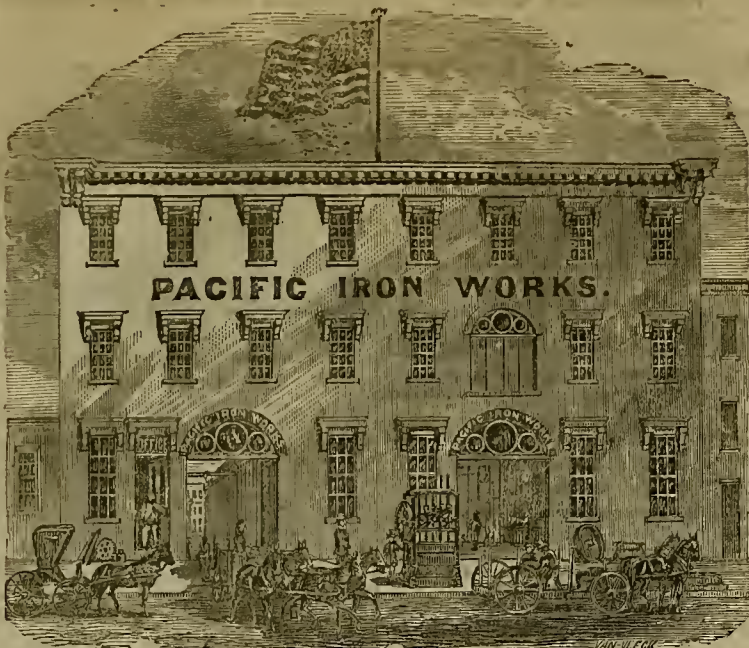
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One of the above steamers leave BROADWAY WHARF at 6 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Steamships ALAX, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SENATE, leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.
Office of the Company, northeast corner of Front and Jackson streets.
B. M. HARTSHORNE,
President.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Myerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

International Hotel,
JACKSON STREET.
BETWEEN MONTGOMERY AND KEARNY STS.,
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THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents.

21v12 F. E. WEYGANT, Proprietor.

INTERNATIONAL HOTEL.

K Street, between Third and Fourth,
SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new-furnished, large and finely ventilated. No expense has been saved to make it comfortable and pleasant for guests.
Price of Rooms very low. Meals, 25 cents.
8v12-5id B. EISENMENGER.

WHAT CHEER HOUSE,

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.
Meals.....25 cents.
Board, per week.....\$4 00
Board and Lodging, per day.....1 00
Single Rooms.....50
Railroad Ticket Office and Stage Office on first floor.
7v12-3m A. J. SENATZ, Proprietor.

Rheumatism'!!

ANOTHER WITNESS!

SALMON FALLS, June 17, 1865.

H. BOWMAN—DEAR SIR: HAVING HAD A FAIR test of the virtues of RICHARDS' REMEDY for Rheumatism, I take great pleasure in stating that its effects will have been even better than its recommendations claim. In 1863 I first heard of the Medicine. I had then been for three years severely afflicted with Rheumatism, and having tried everything I could hear of, without any permanent benefit, I concluded to try this also.
On taking the medicine, in three days I experienced great relief, and in one week was entirely free from pain, and had completely recovered the use of my limbs, which had become almost powerless, so much so that I could not dress myself without assistance. Since that time I have been free from Rheumatism. I have recommended RICHARDS' REMEDY to numerous friends, and in every case it has proved successful. I therefore take great pleasure in recommending it to all who are afflicted with Rheumatism, and especially to all mercurial chronic Rheumatism cases.
Yours respectfully,
(Signed) ERASTUS PARSONS,
President of the Gen. Grant Mining Company.

RICHARDS' REMEDY is for sale by
H. BOWMAN,
Druggist, Sacramento.
Price, \$2.50 per Bottle. 11v13

Important to Californians.—Many inventors have lately had their claims for Patents seriously and in some cases fatally delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

HAYWARD, COLEMAN & CO.,
IMPORTERS AND REFINERS
—OF—
Illuminating, Lubricating,
—AND—
PAINT OILS!

CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO,—
SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.
A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand. 2v 4v13-3m19 414 Front street, San Francisco.

THE CALIFORNIA
Aerated or Unfermented
BREAD COMPANY.
Bakery on Folsom Street,
Between Tenth and Eleventh.....SAN FRANCISCO

MESSRS TAGOART, BULKLEY & DUFF, HAVING ASSOCIATED themselves in partnership, are happy in announcing to the public that they are now prepared, and would respectfully solicit, all orders for their truly wholesome and cleanly Bread. We have a sufficient number of delivery wagons at our bakery to guarantee to all who may favor us with their patronage a prompt delivery of fresh bread daily, Sundays excepted.
Through the kindness of the gentlemen of the following named firms, we are privileged to keep an order box for the entry of all orders for the bakery so that they may reach our earliest attention:
Order box at C. J. Hawley & Co.'s Grocery, corner Second and Jessie streets; Rowland & Walker 547 Clay street; Plum's Carpet Store, Montgomery street, opposite Lick House; G. W. Clark, Paper Hanging, corner Sansome and Clay streets. Orders handed to any of the route-men likewise. We expect soon to be prepared to supply Pastry, likewise the Boston Brown Bread, and Buns of the first quality. Due notice will be given.
The present Company is entirely independent of the former California Unfermented Bread Company, neither of them having been in any way connected with that company.
We would cordially invite the public to make a visit to our new bakery.
4v13-3m S. R. BULKLEY, Business Partner.



RADICAL CURE

—OF—
RUPTURE!

Treatment of all Deformities of the Body, by DR. A. FOLLEAU, process, 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU

Has his studios and manufactory in the same building. Every kind of Artificial Trusses, tritropic instruments, Artificial Limbs, etc., are manufactured and applied by himself.
2v He has no connection with any Agency. 8v13-1y11p

Our Circulation.—THE MINING AND SCIENTIFIC PRESS has a large and permanent subscription list, and enjoys a more universal circulation among stockholders and persons directly interested in mining than any other paper on this coast.

Metallurgy.

BOALT & STETEFELDT,
Metallurgists and Mining Engineers
AUSTIN, NEVADA.
Western Branch of ADOLBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. H. TIEMANN.
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
240 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.
18v12-1y

Copper, Lead, Gold, Silver,
Nickel and Cobalt Ore.

The above Ores are either purchased or liberal advances made upon consignments, at the lowest British rates of interest. For particulars apply to

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Agent for Townshend Wood & Co., Swansea,
No. 415 Montgomery Street, San Francisco.
Special attention paid to Gold Bearing Sulphurets. 2v 15v10-3m

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by N. Haskell, for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties buying Copper Ore, or will make arrangements to buy their ore, receivable at their mines. For further particulars, apply to JOHN N. HASKELL, 21v12 At Coffey & Riedon's, San Francisco.

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Office, Stevenson House,
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WILL CONTRACT FOR THE

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Assaying eight per cent, and upwards of Copper to the ton. We will make advances upon Ores of Copper.
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EUROPEAN

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—AND—
Practical Mining School,
Bryant Street, Between Third and Fourth,
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THE PROPRIETORS are at all times prepared to work or test 1. Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphuret, pyrites, and the so-called "rebellious ores" are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit all parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.
S. F. KIMBALL, J. R. MURPHY, 10v10

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 chinery, etc.
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 Will examine, survey and report upon mines, find consult
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 the machinery management and expenditures of mines.
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Pacific Mail Steamship Co's
THROUGH LINE TO NEW YORK,
Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11
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On the 10th, 18th and 30th of each month that has
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On the 10th, 18th and 30th of each month that has
 31 days.

When the 10th, 18th and 30th fall on Sunday, they will
 leave on Saturday preceding, when the 18th falls on Sun-
 day, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at
 Manzanillo. All touch at Acapulco.

Departures of 18th or 19th connect with French Trans-
 Atlantic Co.'s steamer for St. Nazaire, and English steamer
 for South America.

Departure of 10th connects with English steamer for
 Southampton, and P. R. Co.'s steamer for Central
 America.

Departure of the 30th connects with English steamer for
 Panama, the port of the new mines.

The following Steamships will be dispatched on dates as
 given below:

October 30th—MONTANA.....Capt. Geo. H. Bradbury.
 Connecting with OCEAN QUEEN, Capt. Weir.

Cabin passengers berthed through. Baggage checked
 through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attend-
 ance free.

These steamers will positively sail at 11 o'clock. Passen-
 gers are requested to have their baggage on board before 10
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Through Tickets for Liverpool by the Iman Line, can
 be obtained at office P. M. S. S. Co., San Francisco.

For Merchandise and Freight apply to Messrs. WELLS,
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The splendid steamship COLORADO will be dis-
 patched for CHINA on TUESDAY, January 1, 1887.

For passage and all other information, apply at the Pa-
 cific Mail Steamship Co's office, corner of Sacramento and
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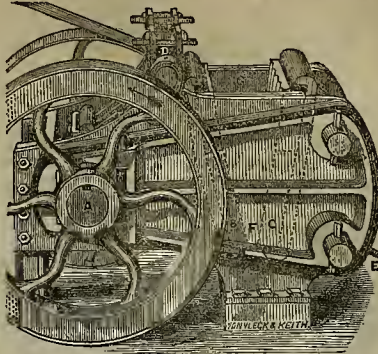
From the Independent Mine, at \$10 per ton.

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Nos. 207 and 209 Sansome street, between California
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Delays are Dangerous.—Inventors on the Pacific
 Coast should bear in mind that by patronizing our Patent
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Brodie's Patented Improvements



FOR THE TREATMENT OF
Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER.
 The attention of all interested in Mining is respect-
 fully called to this Improved Machine for Breaking or
 Spalling Quartz, or other Rock, possessing, in it does, sim-
 plicity of action and lightness of construction, so far as is
 compatible with strength and durability. In consequence
 of these advantages, the advertisers are enabled to offer
 these machines to the public at the following low terms:

No. 1—Or 10 inch Crusher, capable of reducing from
 three to four tons of quartz per hour, 10 pieces be-
 ing larger than a walnut—price.....\$600
 No. 2—Or 15 inch Crusher, capable of similarly putting
 through five to six tons per hour.....850
 No. 3—Or 18 inch Crusher, with a similar manner
 crush from seven to eight tons per hour.....1,200

The above Crushers have been recently erected and are
 now successfully employed at Bear Valley, Mariposa coun-
 ty, Rawhide Ranch, Tuolumne county, Excelsior Mine,
 Lake District, Nevada county, and can be seen in operation
 at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of
 this Crusher, has been received from the Superintendent
 of the "Rawhide Ranch" Mine, in Tuolumne County:

JAMES BRODIE, Esq., San Francisco. My Dear Sir: It gives
 me pleasure to inform you that I have for the past three
 months had one of your largest sized Rock Crushers in
 use, at the Rawhide Ranch Mining Company's Mill, which
 has entirely met my expectations, and I have no hesita-
 tion in recommending to all who are in need of a machine
 for rapidly, cheaply and properly preparing quartz for the
 stamps. Yours truly,
 Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGA-
MATING BARREL.—This Barrel obtained a premium at
 the Fair of the Mechanics' Institute in San Francisco, in
 1884. Further particulars will be afforded on application
 to the subscribers.

These infringing the patent rights to the above Improved
 Barrel, are hereby informed that on and after the 1st No-
 vember, 1886, the royalty charged for using the same will
 be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be
 found in the "Mining and Scientific Press," of September
 29th, 1886.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR
DRY CRUSHING.—This Dry Crusher has been found the
 most economical and effective mode of crushing ores in
 Mexico, California and Nevada. Diagrams and explana-
 tions afforded on application to the subscribers.

A drawing and full description of this machine will be
 found in the Mining and Scientific Press of Sept. 22d, 1886.

BRODIE & RADCLIFFE,
 Express Building, 402 Montgomery street, San Francisco.
 12v13-tf

Just Published.

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IM-
PORTANT LECTURES ON FUNCTIONS AND DISORDERS OF
THE NERVOUS SYSTEM AND REPRODUCTIVE ORGANS, TO BE
ADDRESSED BY DR. J. M. HENDERSON, M.D., F.R.C.S.,
SECRETARY OF THE PACIFIC MUSEUM OF ANATOMY,
 Montgomery street, San Francisco. 12v13-1y

NOTICE!

Union Mattole Oil Company.

(WORKS: HUMBOLDT COUNTY, CAL.)

ALL Persons are hereby notified and warned
 not to purchase any of the following described cer-
 tificates or shares of stock in the Union Mattole Oil Com-
 pany, advertised to be sold at public auction, by Messrs.
 Olney & Co., at No. 418 Montgomery street, San Francisco,
 on Monday, October 18th, at 12 o'clock, M., for the day,
 under delinquent assessments, as ordered by the Trustees
 of the Union Mattole Oil Company. Said assessment and
 sale (so far as relates to the certificates and stock herein
 mentioned) being illegal, the undersigned owners of the
 certificates and stock designated, give this notice:

James M. Cox, Certificate No. 177, 1 share; P. Ellery,
 Certificate No. 137, 1 share; D. H. Henderson, Certificates
 Nos. 244, 245, 246 and 247, for 40 shares; Andrew Henry, Cer-
 tificates Nos. 81 and 220, for 20 shares; A. H. Hadley, Cer-
 tificates Nos. 23, 25, 26, 27, 28, 133, 134, 135, 136, 137, 138, 139,
 141, 142, 143, 144, 145, 146 and 147, for 140 shares; James
 Henderson, Certificates Nos. 184, 185, 186, 187, 188, 203, 204, 205,
 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219,
 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232,
 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245,
 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132,
 Kenyon, Certificate No. 152, for 2 shares; Wm. Taylor, Cer-
 tificates Nos. 46, 47, 48, and 49, for 20 shares; F. A. Lynn, Cer-
 tificates Nos. 19, for 4 shares.

James M. Cox, B. K. Smith,
 F. Ellery, D. H. Henderson,
 Andrew Henry, Wm. H. Kenyon,
 James W. Henderson, William Taylor,
 San Francisco, California, October 5th, 1886. 14v13-2w

New Mining Advertisements.

Great Central Mining Company.—Location of
 Works: Yuma County, Arizona Territory.

Notice is hereby given that at a meeting of the Board of
 Trustees of said Company, held on the fifteenth day of Oc-
 tober, 1886, an assessment of one dollar (\$1) per share was
 levied upon the capital stock of said Company, payable im-
 mediately in United States gold and silver coin, to the Sec-
 retary, at the office of the company, No. 302 Montgomery
 street, San Francisco, Cal., from 4 to 5 P. M.

Any stock upon which said assessment shall remain un-
 paid on the fifteenth day of November, 1886, shall be de-
 deemed delinquent, and will be duly advertised for sale at public
 auction, and unless payment shall be made before, will be
 sold on Monday, the third day of December, 1886, to pay
 the delinquent assessment, together with costs of advertis-
 ing and expenses of sale. By order of the Board of Trustees,
 O. D. SQUIRE, Secretary.

Office, No. 302 Montgomery street. oc20

American and Foreign Patents.—Letters Patent
 for Inventors are secured in the United States and foreign
 countries through the Mining and Scientific Press Patent
 Agency. We offer applicants reasonable terms, and they
 can rest assured of a strict compliance with their obligations,
 and a same prompt and efficient service. For reference,
 we will furnish the names of numerous parties for whom
 we have obtained patents during the past two years.

Favorable to Inventors.—Persons holding new in-
 ventions of machinery and important improvements, can
 have the same promptly and efficiently secured in the Mining
 and Scientific Press, free of charge, if in our judgment the
 discovery is one of real merit, and of sufficient interest to
 our readers to warrant publication.

George Washington Gold and Silver Mining

Company, Silver Mountain District, Alpine County, Cal.

Notice.—There are delinquent, upon the following de-
 scribed stock, on account of assessment levied on the
 seventeenth day of September, 1886, the several amounts set
 opposite the names of the respective shareholders as fol-
 lows:

Names.	No. Certificate.	No. Shares.	Amount.
Aldoerffer Geo.	163	1	\$1.50
Aldoerffer Geo.	162	3	4.50
Arnold B. W.	322	10	15.00
Howland Wm.	241	5	7.50
Boggs A. O.	67	11	16.50
Cook A. J.	93	10	15.00
Denning Wm.	168	10	15.00
Ellsworth Wm.	189	6	9.00
Grigsby T. L.	99	10	15.00
Grigsby R. D.	169	10	15.00
Grigsby A. D.	180	10	15.00
Grigsby E. D.	79	10	15.00
Hayward C. G.	45	6	9.00
Hackley B. W.	37	4	6.00
Johnson Dennis.	153	2	3.00
Johnson Geo. W.	48	3	4.50
Kather Charles.	90	15	22.50
Linn J. W.	263	10	15.00
Mudgett John.	251 282 5-a	10	15.00
Miller G. A.	91	10	15.00
Miller John.	152	5	7.50
Miller Wm.	251	5	7.50
McCall Wm.	41	5	7.50
McConnell A. C.	336	7	10.50
Meichenberg J.	339	6	9.00
Nelson A. G.	10	10	15.00
Nelson J. G.	66	5	7.50
Pearson I. N.	212 and 213 5-a	10	15.00
Ridgman W. C.	68 350 3-a	6	9.00
Risley J. B.	106	4	6.00
Risley J. B.	177	5	7.50
J. R. Roberts.	279	6	9.00
Vict J.	255	1	1.50
Vict J.	255	6	9.00
Whitton M. S.	185 186 187 188	10	15.00
	191 192 193 194 195 196 10-a	120	180.00
Whitton W. C.	294	10	15.00
Whitton C. J.	239	6	9.00
Wines C. B.	273	6	9.00
Williams Samuel.	89	30	45.00
Williams Samuel.	280	5	7.50

And in accordance with law, and an order of the Board
 of Trustees, made on the seventeenth day of September,
 1886, so many shares of each parcel of said stock as may be
 necessary, will be sold at public auction, by Messrs. Olney
 & Co., at No. 418 Montgomery street, San Francisco, Cal.,
 on Monday, the fifth day of November, 1886, at the hour of
 12 o'clock, M., of said day, to pay said delinquent as-
 sessment thereon, together with costs of advertising and
 expenses of sale.

A. O. WOOD, Secretary.
 Office, 338 Montgomery street, San Francisco. oc20

Lady Bell Copper Mining Company, Low Di-
vide Mining District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the eighteenth day of
 October, 1886, an assessment of ten (10) cents per share
 was levied upon the capital stock of said Company, payable
 immediately, in United States gold and silver coin, to the
 Secretary, or to J. K. Johnson, at Crescent City.

Any stock upon which said assessment shall remain un-
 paid on the nineteenth day of November, 1886, shall be
 deemed delinquent, and will be duly advertised for sale
 at public auction, and unless payment shall be made be-
 fore, will be sold on Thursday, the sixth day of December,
 1886, to pay the delinquent assessment, together with costs
 of advertising and expenses of sale. By order of the Board
 of Trustees.

C. HEYWOOD, Secretary.
 Office, 311 Market street, San Francisco, Cal. oc20

Ophir Silver Mining Company.—Location of
 Works, Virginia District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the sixteenth day of Oc-
 tober, 1886, an assessment of six dollars (\$6) per share was
 levied upon the capital stock of said Company, payable
 October nineteenth, in United States gold coin, to the Sec-
 retary, at the Company's office, No. 402 Montgomery street,
 San Francisco, California.

Any stock upon which said assessment shall remain un-
 paid on the nineteenth day of November, 1886, shall be de-
 deemed delinquent, and will be duly advertised for sale at public
 auction, and unless payment shall be made before, will be
 sold on the tenth day of December, 1886, to pay the
 delinquent assessment, together with costs of advertising
 and expenses of sale. By order of the Board of Trustees.

THOS. J. LAMB, Secretary.
 Office, 402 Montgomery street. oc20

Office of the Ophir of the Colorado Silver Min-
ing Company.—October 13th, 1886.

ANNUAL MEETING.—The Annual Meeting of the Ophir of the
 Colorado Silver Mining Company, will be held at the office of
 the Secretary, No. 628 Clay street, San Francisco, at 4
 o'clock P. M., MONDAY, the 19th day of November, 1886, for
 the election of officers and the transaction of business.

Peemach Gold, Silver and Copper Mining Company, Gopher District, Calaveras County, Cal.
 Notice—There are delinquent upon the following described stock, on account of assessment levied on the thirty-first day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J. Spencer	16	10	\$5 00
J. P. Schaefer	17	10	5 00
J. P. Schaefer	18	10	5 00
J. P. Salomon	24	10	5 00
J. W. W. W.	29	10	5 00
John A. Reichert	42	10	5 00
John A. Reichert	43	10	5 00
John A. Reichert	44	10	5 00
John A. Reichert	45	10	5 00
John A. Reichert	46	10	5 00
John A. Reichert	47	10	5 00
John A. Reichert	48	10	5 00
John A. Reichert	49	10	5 00
John A. Reichert	50	12	6 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of September, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on the eighth day of October, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CHARLES OSMER, Secretary.
 Office, No. 10 Folsom street, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until WEDNESDAY, November seventh, 1886, at the same hour and place. By order of the Board of Trustees.
 CHARLES OSMER, Secretary.

Mining Notices--Continued.

Arbitros Mining Company, Batopilas District, State of Chihuahua, Mexico.

Notice—There are delinquent upon the following described stock, on account of assessment (No. 1) levied on the thirty-first day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
M. Hagen	23	5	\$3 00
M. Hagen	24	5	3 00
M. Hagen	25	5	3 00
A. C. Waitt	29	10	10 00
A. C. Waitt	30	10	10 00
A. C. Waitt	31	12	12 00
John H. Stevens	13	15	15 00
John H. Stevens	14	4	4 00
John H. Stevens	15	10	10 00
Henry Weidensheim	241	5	5 00
Henry Weidensheim	242	5	5 00
John J. Seitelher	243	10	10 00
George W. Johnson	244	5	5 00
R. Stoddard	93	3	3 00
R. Stoddard	191	1	1 00
R. Stoddard	227	10	10 00
Wm. Gildemeister	125	5	5 00
Wm. Gildemeister	130	10	10 00
Wm. Gildemeister	133	15	15 00
Wm. Gildemeister	173	8	8 00
Wm. Gildemeister	227	20	20 00
Wm. Gildemeister	228	20	20 00
Wm. Gildemeister	229	10	10 00
Wm. Gildemeister	234	4	4 00
Wm. Gildemeister	235	6	6 00
Has F. Brown	208	6	6 00
Has F. Brown	209	6	6 00
Has F. Brown	210	5	5 00
Has F. Brown	211	4	4 00
Has F. Brown	212	10	10 00
E. Jorgensen	54	10	10 00
E. Jorgensen	157	3	3 00

Total.....303 \$303 00

And in accordance with law, and an order of the Board of Trustees, made on the thirtieth day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., No. 27 Montgomery street, San Francisco, Cal., on the twenty-sixth day of October, 1886, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. MARTINON, Secretary.
 Office, 811 Montgomery street, San Francisco, Cal. oc6

Assurance Mining Company--Location: Occidental Ludo, San Benito Mining District, County of Monterey, State of California.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the twenty-third day of August, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
O. Carr	27	10	\$150 00
O. Carr	135	10	150 00
O. Carr	136	10	150 00
O. Carr	137	10	150 00
W. O. Lincoln	5	5	5 00
Henry Champlin	4	20	20 00
A. Forrester	15	24	24 00
A. J. Weaver	8	30	30 00
Wm. G. Glavin	14	10	10 00
W. H. Schell	33	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-third day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., No. 418 Montgomery street, San Francisco, Cal., on the twelfth day of October, 1886, at the hour of 11 o'clock, A. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. H. RUSSELL, Secretary.
 Office, Room No. 4, 302 Montgomery street, San Francisco.

POSTPONEMENT.—The above sale is hereby postponed until Monday, the twenty-ninth day of October, 1886, at the same hour and place. By order of the Board of Trustees.
 H. H. RUSSELL, Secretary.

Cosala Silver Mining Company, Cosala District, State of Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-ninth day of September, 1886, an assessment of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in gold coin of the United States, to CHAS. BAUM, Secretary, at the office of this Company, No. 510 Battery street, opposite the Custom House, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

CHAS. BAUM, Secretary.
 Office, No. 510 Battery street, opposite the Custom House, San Francisco, Cal. 15134w

POSTAGE.—The postage on the MINING AND SCIENTIFIC Press is paid by the United States in twenty cents per annum, per copy, per quarter, payable in advance at the post office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (including the Bremen and Hamburg lines), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

We receive, regularly as clock work, this exceedingly valuable and interesting journal.—[Naples Reporter.]

Consolidated Silver Hill Mining Company--

Location of Works: Esmeralda District, State of Nevada.
 Notice—There are delinquent upon the following described stock, on account of assessment levied on the twenty-fourth day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Garnett L. A.	228	1	\$1 00
Lauckersheim Isaac	259	5	5 00
Lauckersheim Isaac	260	10	10 00
Allen C.	416	3	3 00
Barroll	432	5	5 00
Cohn E.	610	10	10 00
Levy H.	755	10	10 00
Levy H.	756	10	10 00
Mayor Simon	829	2	2 00
Mayor Simon	830	20	20 00
Cohn E.	867	10	10 00
Mayor Simon	868	10	10 00
Cohn E.	873	10	10 00
Mayor Simon	876	8	8 00
Mayor Simon	881	7	7 00
Higgins & M. J.	889	1	1 00
Murray, Isaac	950	10	10 00
Cohn E.	952	100	100 00
Dreschfeld H.	954	36	36 00
Dreschfeld H.	955	36	36 00
Dreschfeld H.	956	9	9 00
Landsberger J.	965	20	20 00
Landsberger J.	966	15	15 00
Levy H.	969	30	30 00
Harkiss J.	979	2	2 00
Dreschfeld H.	986	7	7 00
Dreschfeld H.	987	19	19 00
Eriehamch M.	1022	15	15 00
Eriehamch M.	1023	10	10 00
Dreschfeld H.	1044	20	20 00
Kowalski P.	1045	30	30 00
Bohn S. H.	1074	25	25 00
Farwell J. Jr.	1075	35	35 00
Farwell J. Jr.	1076	40	40 00
Luther J. M.	1077	40	40 00
Luther J. M.	1078	40	40 00
Luther J. M.	1079	40	40 00
Hamilton T.	1082	50	50 00
Singleton S.	1084	20	20 00
Singleton S.	1085	68	68 00
Singleton S.	1086	68	68 00
Singleton S.	1087	35	35 00
Pawling T. M.	1089	19	19 00
Pawling T. M.	1090	71	71 00
Pawling T. M.	1091	55	55 00
Pawling T. M.	1092	33	33 00
Pawling T. M.	1093	53	53 00
Pawling T. M.	1094	97	97 00
Pawling T. M.	1095	50	50 00
Turney J. H.	1096	10	10 00
Boyd J. T.	872	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of August, 1886, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Messrs. Olney & Co., at Room No. 15 Government House, San Francisco, California, on the twenty-second day of October, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN S. MACKENZIE, Secretary.
 Office, Room 15 Government House, San Francisco. oc6

Dianna Gold and Silver Mining Company, Lander County, Nevada.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the fourteenth day of August, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
H. H. Allen	236	3	15 00
J. C. Bateman	211	4	20 00
E. G. Bidleman	333	83	83 75
H. F. C. Bateman	104	106	106 14
H. F. C. Bateman	200	4	25 00
H. F. C. Bateman	201	5	25 00
E. P. Cutter	248	10	50 00
James Camp	336	35	50 00
G. H. W. Crockett	24	25	100 00
N. B. Jacobs	39	2	10 00
T. E. Lindenberg	112	3	15 00
T. E. Lindenberg	337	2	10 00
Wm. Friedman	223	2	10 00

And in accordance with law, and an order of the Board of Trustees, made on the fourteenth day of August, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Jones & Bendixen at the office of the Company, on the second day of November, 1886, at the hour of two o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary.
 Office, 402 Front street, San Francisco. oc6

Ethan Allen Gold and Silver Mining Company,

Location of Works, Austin, Lander County, Nevada.
 Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of October, 1886, an assessment of fifty cents (50) per share was levied upon the capital stock of said Company, payable October eighth, 1886, in United States gold and silver coin, to the Secretary, at the office of the Company, 829 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. B. CONGDON, Secretary.
 Office, 620 Washington street, Room 9, San Francisco. oc6

Humboldt Gold and Silver Mining Company,

Location, Humboldt County, Nevada.
 Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of September, 1886, an assessment of two dollars (\$2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, E. O'HARA TAAPPE, No. 430 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. O'HARA TAAPPE, Secretary.
 Office, No. 430 California street, San Francisco. sc22

I. X. L. Gold and Silver Mining Company, Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-ninth day of September, 1886, an assessment of one dollar and fifty (\$1 50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary only, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-ninth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JAMES G. DAYLEY, Secretary.
 Office, No. 332 Montgomery street, San Francisco, Cal. oc6

ENGRAVED TO ORDER.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices.

DEWEY & CO.,
 Patent Agents, Publishers and Job Printers, 505 Clay St.

Keystone Mining Company, Copper Canon District, Copperopolis, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of September, 1886, an assessment of five (\$5) dollars per share was levied upon the capital stock of said Company, payable immediately, in gold coin of the United States, to the Secretary, at his office, No. 410 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the tenth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. P. SUTTON, Secretary.
 Office, 410 California street, San Francisco. sc22

Kentucky Copper Mining Company, Calaveras County, California.

Notice is hereby given, that the certificates, No. 44 of fifteen shares, and No. 109 of ten shares, Kentucky Copper Mining Company, standing in my name, have been lost.

The transfer being stopped, the public are cautioned against purchasing the same.
 J. R. DENNIS.

San Francisco, August 20, 1886. au25-3m

La Blanca Gold and Silver Mining Company,

District of San Antonio, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of October, 1886, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighth day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the sixth day of December, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary.
 Office, 318 California street. oc6

Mina Riea de las Flores Mining and Mill Company, Camp Flores, near West Point, Calaveras County, California.

Notice—There are delinquent upon the following described stock, on account of assessment (No. 13) levied on the twenty-first day of August, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Anderson & Co. C. A.	42	5	\$ 5 00
Anderson & Co. C. A.	43	5	5 00
Anderson & Co. C. A.	44	2	2 00
Anderson & Co. C. A.	151	2	2 00
Anderson & Co. C. A.	152	2	2 00
Anderson & Co. C. A.	153	1	1 00
Anderson & Co. C. A.	154	1	1 00
Anderson & Co. C. A.	155	1	1 00
Anderson & Co. C. A.	156	1	1 00
Anderson & Co. C. A.	157	1	1 00
Anderson & Co. C. A.	158	1	1 00
Anderson & Co. C. A.	159	1	1 00
Anderson & Co. C. A.	160	1	1 00
Baker P.	422	1	1 00
Bartolome H. G.	221	1	1 00
Bartolome H. G.	216	5	5 00
Bianchard L.	679	100	100 00
Bouhival A.	467	100	50 00
Bouhival A.	658	50	50 00
Bouhival A.	659	50	50 00
Bouhival A.	655	50	50 00
Bouhival A.	656	55	33 50
Bouhival A.	653	15	15 00
Bouhival A.	659	50	50 00
Bouhival A.	659	50	50 00
Bouhival A.	661	50	50 00
Boysen C.	125	5	5 00
Boysen C.	682	11	11 00
Boese J.	686	5	5 00
Crevolin F.	314	10	10 00
Crevolin F.	315	5	5 00
Crevolin F.	316	5	5 00
Chouisse J.	615	20	20 00
Christenson J.	693	143	143 00
Colette H.	13	13	13 00
Colette H.	704	20	20 00
Colette H.	705	10	10 00
Colette H.	705	10	10 00
Ellerhorst & Co H. D.	3	5	5 00
Ellerhorst & Co H. D.	4	5	5 00
Ellerhorst & Co H. D.	5	5	5 00
Ellerhorst & Co H. D.	6	2	2 00
Ellerhorst & Co H. D.	307	18	18 00
Enquist A.	668	83	83 00
Freman E.	287	5	5 00
Freman E.	499	25 1/2	25 50
Grisel Mrs. C.	659	15	15 00
Gradwohl A.	717	75	75 00
Gradwohl A.	718	20 1/2	20 50
Gradwohl A.	719	20	20 00
Johnston J. H.	126	5	5 00
Johnston J. H.	127	5	5 00
Johnston J. H.	241	10	10 00
Johnston J. H.	512	25	25 00
Johnston J. H.	513	40 1/2	40 50
Jacques Daguer	686	55	55 00
Jacques Daguer	687	60	60 00
Jacobs S.	706	20	20 00

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Lega; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

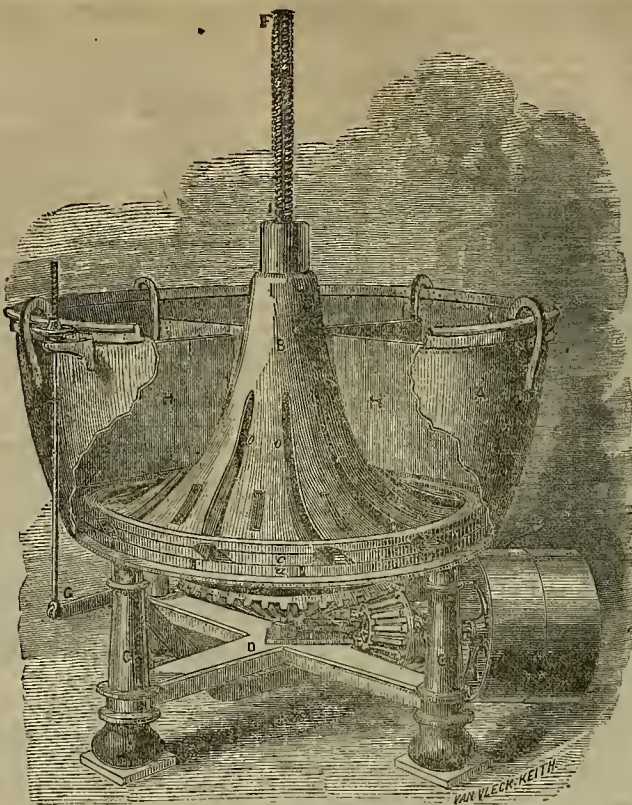
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

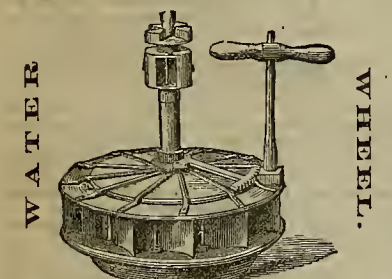
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. This it is constantly passing in a regular flow between the grinding surfaces and to the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has won unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in miner's liches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to
KNAPP & GRANT,
San Francisco.

Leffel's Lever Jacks,
For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by
KNAPP & GRANT,
San Francisco.

PAGE'S PATENT FOR RAISING SUNKEN VESSELS!

SHIPPING AND INSURANCE COMPANIES, AND other parties upon this Coast or in the Atlantic States, having occasion to avail themselves of this machinery, which has been tried and proved a success, will please address, for the present, JOSEPH DEY, San Francisco or at the office of the Mining and Scientific Press.
AUSTIN Z. PAGE, Patentee.

To Ditchmen, Millmen and Others Requiring
IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground.
1912

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,
416 Market street, San Francisco.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery
OF ALL KINDS.

Special attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—
Governor F. F. Low;
T. Menden, Stockton;
Jacob Underhill & Co., San Francisco;
J. W. Stowe, Russell & Erwin Manufacturing Company;
Office, No. 120 Front street, San Francisco.
4v12

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

STODDARD'S CELEBRATED WATER FILTERS!

RENDER RAIN, RIVER, OR SPRING VALLEY WATER R perfectly pure and healthy. Three sizes. Price, \$14, \$15 and \$18. For sale by

S. B. STODDARD,
Corner of Battery and Pacific streets.
June 23, 1866. 2v12-3m

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by

THOMAS H. SELBY & CO.,
Nos. 116 and 118 California street

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. Due to three-ply hose made. All orders punctually attended to.

S. HOWARD,
211-1y 326 Davis street, San Francisco.

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE

ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent.

At Job M. SEAMAN & Co's, 621 WASHINGTON STREET, San Francisco.

THIS TIME PIECE costs but a trifle more than any other road clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is daily appreciated. The Clock has two dials, the first being the same as an ordinary clock; the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the Mining and Scientific Press.

REMINGTON'S ARMORY.

Agency, 310 Washington st., San Francisco.

PRICES REDUCED!

These arms have been preferred by the United States Government, and stand unequalled by any in the world. Revolvers, Army, Navy, Belt and Pocket, Double and Single Action; Repeaters, and vest-pocket Pistols, with copper ammunition; Police Revolvers, a new model, navy size ball, 4 1/2 to 6 inch barrel; Rifle Guns—an entirely new Arm—having a range and accuracy equal to a rifle, and a most perfect Game. All the new models for sale very low.
12v13-14f

ALBERT E. CRANE.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDARD'S IRON WORKS, 114 Beale Street, San Francisco.

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for this branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.
M. PRAG,
8v13-1y Stove Store, No. 125 Clay street, below Davis.

Economy in Advertising.—The Mining and Scientific Press is the best and most economical mining advertising medium in this city. Our terms are less than one half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

CHANGING THE ADDRESS.—No charge is made for changing the address of this paper. To give all necessary information, write us plainly as follows: "Change address of the Mining and Scientific Press from Mr. at P. O. County, State, to Mr. at P. O. County, State, 186-." 1am1s

Brevities.

OPALS in considerable quantity have been discovered in Honduras.

THE tenth victim of the Julia explosion died on the 15th instant.

DR. STEVENSON, who had commenced work in the Georgia diamond mines in 1861, just before the breaking out of the war, is to resume operations at once.

THE whale fishery is as flourishing as ever, in spite of petroleum. Prices are higher. Spermin oil is worth four dollars per gallon. Every vessel in New Bedford that can be had is pressed into the service.

THE old fashioned type is now all the rage. In England matrices from punches originally cut by William Caslon in 1726, are taken down for daily use, after having been laid aside since 1772 as obsolete, nearly fifty years after their first invention.

TWO wagons, each loaded with 5,000 pounds of powder, blew up a few days ago near Salt Lake. One joint of one of the driver's fingers, and a piece of his skull were picked up a quarter of a mile distant, being the only remains of his body that could be found.

AN attempt is to be made to introduce California oysters and quail into the Hawaiian Islands. The Vanderbilt, which sailed the other day with Queen Emma as passenger, took specimens. Attempts have been before made to introduce shellfish, but they have failed.

A NEW musical instrument has been introduced in Paris. It resembles a piano with upright strings, except that the latter are replaced by tuning forks, which, to strengthen the sound, are arranged between two small tubes, one above and the other below them. The tuning forks are sounded by hammers, and are brought to silence at the proper time by means of dampers. The sounds thus produced resemble those of the harmonium, and are extremely pure and penetrating.

A PENNSYLVANIA paper says: A monster locomotive has been added to the rolling stock of the Lehigh and Mahoney Branch of the Lehigh Valley Railroad. It is called the "Consolidation." It weighs 38 tons 6 cwt., 20-inch cylinder, with 24-inch stroke, has 8 driving-wheels, 48 inches in diameter, with but a single truck; length of furnace 8 feet; and has 173 inch flues. A few days since the Consolidation was put to a test, drawing 107 empty coal cars up a grade of 90 feet to the mile. Another trial was made afterwards when 75 empty cars were drawn up a 146 feet grade.

THE projected tunnel under the English Channel, from Dover to Calais, will involve some twenty-five miles of underground work—twenty of it under the sea. M. Gamond, the proposer of this enterprise, has made six surveys of as many different routes, with geological charts and detailed drawings. He proposes to raise a tower 284 feet high in the middle of the sea, with a shaft 650 feet in diameter, and surrounded by an artificial island. This would still leave some twelve or thirteen miles to be supplied with fresh air on each side of it. Twenty-nine feet three inches is the proposed radius of this arc, with a height of twenty-two feet nine inches, with drainage underneath, a foot-path for pedestrians, and two lines of railway. He would hope to complete this in six years, island and all—this last alone requiring some 5,000,000 cubic metres of earth to be deposited midway of the channel.

PACIFIC RAILROAD AND MINERAL LANDS.—The Nevada Gazette of Oct. 12th, says: "We notice by the Marysville Appeal, of Wednesday, that ex-parte affidavits were filed in the Marysville Land Office, on the 9th instant, alleging that certain lands situated in township 10 north, range 9 east, Mount Diablo meridian, were more valuable for mining than for agricultural purposes. Immediately upon the filing of the affidavits, the lands were temporarily withdrawn from sale, and settlers on the same and others interested are notified of their right to the counter affidavits. The township referred to is in El Dorado county, of course has been surveyed, and is included in the limits of the railroad grant. This is the only course the miners can take, under the present rules of the Land Office, to prevent their claims being swallowed up by the railroad company, and similar action will have to be taken by the people of Nevada county as fast as the land is sectionized. It appears, too, that proof has to be made for every forty acre lot, the smallest subdivision made by the Government surveyors. The proof has to be made that the land is more valuable for mineral than for agricultural purposes, otherwise it is reckoned as agricultural and given to the railroad. We think there will be little difficulty in establishing the mineral character of nearly all the land in this county lying east of Rough and Ready, and although it will entail upon the people some trouble and expense, by concerted action and the production of a sufficient number of affidavits, the whole can be saved for the benefit of the miners."

METEORIC.—A remarkable meteoric display was recently witnessed by a lady in Lynn, Mass., sister of a gentleman of this city. A fragment fell upon the grass directly in front of her window. The lady and her servant rushed to the spot and found a white substance quite hot, and smelling of sulphur. Dr. Jackson, of Boston, has pronounced it a very fine specimen of an aerolite.

In connection with the above, we clip from the Reese River Reveille of October 8th, the following account of the supposed falling of a meteor in that vicinity:

We learn from Mr. Alonzo Monroe, that while he and party were in the Reveille district, which lies about 130 miles southeast of Austin, on the 28th of September, a singular phenomena occurred. It was, perhaps, nine o'clock at night, and the men were lying asleep on the ground, when Monroe was awakened by some cause, and looking around was astonished at seeing the surrounding country lighted up as if by an extensive fire. On the instant the light became brilliant and intense, and an immense body, glowing with incandescent heat, moved rapidly through the atmosphere in a southerly direction. Monroe describes it as the grandest spectacle he ever witnessed. As the meteor disappeared, the light gradually paled, and soon faded altogether, leaving only the starlight. In from ten to twenty seconds after the disappearance of the body, the now thoroughly awakened party heard a quick succession of thundering sounds from the southward, resembling vast masses of hurtling rocks, which reverberated through the mountains for several seconds. It was, undoubtedly, an enormous meteor, which had fallen at no great distance from the camp of the party. Mr. Monroe represents the vast body as without any particular shape, and as "large as a church." Even now, in his cooler moments, he insists that it was as "large as a small house."

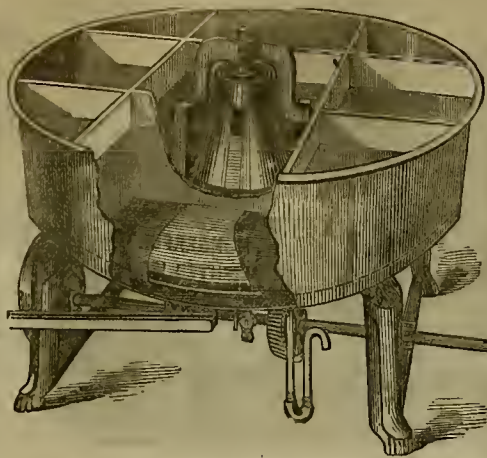
To Keep Ice.—Bell's Messenger says: Make a double pocket of any kind of strong woolen cloth, no matter how coarse and faded it is. Have a space of two inches or so between the inner and outer pockets, and pack this space as full as possible with feathers. You have no need to use goose feathers; hen's feathers are just as good. With a pocket thus constructed and kept closely tied at the mouth, a few pounds of ice may be kept a week.

Auction House.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 413 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.

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CAUTION!

NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 25th, 1865, to Professor HENRY WURTZ, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

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3d. The "sloshing" motion given to the pulp (by the revolution of the muller under the stationary frame) against the amalgamated copper plates that are latched to the frame, and by this means catching the fine gold and mercury that will not settle.

4th. The gate in the cone, through which the pulp is discharged, from the top, and where there is the least motion, almost precluding the possibility of any granulated mercury or fine gold escaping.

There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

ISRAEL W. KNOX, or
W. A. PALMER, Inventors,
No. 11 First street, San Francisco.

ANNUAL REPORT

—OF THE—

Pacific Insurance Company.

IN COMPLIANCE WITH THE ACT OF THE LEGISLATURE of the State of California, entitled "An Act concerning Corporations," passed April 22, 1850, the Pacific Insurance Company of San Francisco makes the following Annual Report:

I.—The amount of the Capital Stock of this Company is SEVEN HUNDRED AND FIFTY THOUSAND DOLLARS, and paid in COLD... \$750,000
II.—The amount of the Assets is ONE MILLION AND FIFTY ONE THOUSAND, FOUR HUNDRED AND TWENTY DOLLARS AND THIRTY-SEVEN CENTS. \$1,051,420.37
III.—The Company has NO DEBTS

IV.—The amount of Insurance effected during the year, and which remained in force December 31, 1865:
Fire... \$12,975,949
Marine... 451,405
This Company commenced underwriting Marine risks, August 1, 1865.

V.—This Company insures against the following risks, viz.: BUILDINGS, HOUSEHOLD FURNITURE, MERCHANDISE, RENTS, LEASEHOLDS, VESSELS IN PORT AND THEIR CARGOES, and other PERSONAL PROPERTY, AGAINST LOSS OR DAMAGE BY FIRE. Also, on CARGOES, TREASURE, COMMISSIONS, PROFITS, and WAR RISKS, and ON ALL MARINE AND LAND NAVIGATION RISKS, TO AND FROM ALL PORTS IN THE WORLD.

VI.—This Company will take on any FIRST-CLASS RISK not to exceed \$75,000 (the limit fixed by law), and on all large risks will reinsure to an extent consistent with PRUDENCE in other RESPONSIBLE COMPANIES.

J. HUNT, President.

A. J. RALSTON, Secretary.

San Francisco, January 19, 1866.
Louis McLane, Edward Martin, A. Hayward,
W. C. Ralston, Chas. Mayne, T. L. Barker,
A. L. Rubbs, Moses Ellis, Alex. Weill,
William Alvord, E. L. Goldstein, C. Meyer,
Frederick Billings, Wm. T. Coleman, J. D. Fry,
Jonathan Hunt, John O. Earl, M. Rosenbaum,
A. B. Forbes, Lloyd Tevis, H. H. Bigelow,
Asen G. Sikes, Geo. W. Beaver, T. Leamon Mer,
Abm. Seligman, Adam Grant, Sacramento,
L. B. Benchley, Alpheus Bull, Edgar Mills,
Wm. Sherman, S. M. Wilson, G. W. Mow, C. T. Wheeler,
L. Sachs, D. J. Oliver, Marysville,
Jas. De Fremery, William Schulle, Morton Cheeseman, J. H. Jewett,
John G. Bray, H. B. Hanscomb, H. B. Hanscomb,
H. B. Hanscomb, D. W. C. Rice, T. R. Anthony,
David Stern, Oliver Eldridge, Portland, Oregon,
D. O. Mills, E. W. Leonard, W. S. Ladd,
J. G. Kellogg, S. Stuber, Jacob Kamm,
G. H. Howard, P. L. Weaver, Virginia, Nevada,
Moses Heller, Wm. Hoover, Wm. Sharon,
G. T. Lawton, Alfred Borel.

State of California, City and County of San Francisco, ss.
On this nineteenth day of January, A. D. one thousand eight hundred and sixty-six, personally appeared before me, H. S. Romans, a Notary Public, in and for the said City and County, and therein residing, duly commissioned and sworn, A. J. Ralston, who, being duly sworn, did depose and say that he is the Secretary of the Pacific Insurance Company, and that the statements contained in the foregoing Report of the Pacific Insurance Company are true, full and correct.

Sworn and subscribed to before me, this 19th day of January, A. D. 1866.

H. S. ROMANS, Notary Public.

6v13-1f

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Book Printing should be considered and treated as one of the higher branches of the "Art of Arts," and its execution entrusted only to experienced and intelligent workmen. Strict attention will be given to all orders for BOOK AND PAMPHLET PRINTING entrusted to the Mining and Scientific Press Job Office.

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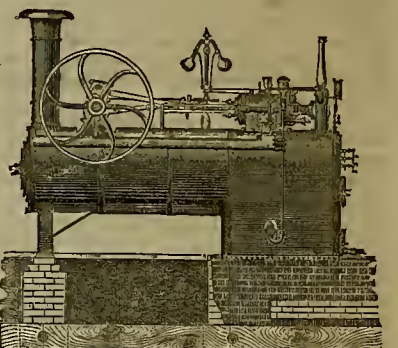
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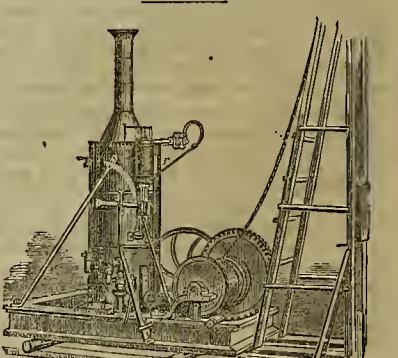
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12v13f

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

SLOP HOPPER.—John Marquis, of San Francisco, claims the construction and arrangement of an improved slop hopper, connected with a bowl or pan, the whole placed upon legs or standards, and arranged as described in his application. This invention has already been fully described in this paper.

PADDLE WHEEL.—Adolph Heuston, San Francisco, California, claims a new invention a combination of the paddle with pivots and books, stop, lever, and regulator, and for the purposes there specified.

THROTTLE VALVE.—Warren P. Miller, of San Francisco, claims a valve made to operate in a case by means of a weight, substantially as shown and described in his application.

GANG PLOW.—James W. Donaldson, Daniel Sheets, and Allen C. Miller, Suisun, California, claim a peculiar construction of a frame for a gang plow, by which a greater degree of strength is obtained. They also claim this manner of attaching the plows to their respective portions of the frame, by means of bent braces, etc. Also an adjustable wheel and scraper, with other fixed wheels, turn-plates, connecting rods, bars, etc.

MANUFACTURE OF ILLUMINATING GAS.—H. D. Green, Portland, Oregon, claims the manufacture of illuminating gas from coal and sawdust combined, and subjected to destructive distillation, substantially after the manner described.

FASTENING FOR CARPETS, ETC.—Christopher Gullinan, Poughkeepsie, N. Y.: This invention consists in the arrangement of flat or concave rods which are provided with teeth bent down from one or both edges in combination with screws or other suitable means for fastening the same to the floor, so that by such rods a carpet or any other textile or flexible fabric can be readily stretched and held in position, and by removing the rods the carpet or other article can be taken up without injury.

VALVE FOR WATER-SUPPLY PIPES.—Wm. Kearney, Belleville, N. J.: The object of this invention is to obtain a valve for water-supply pipes, which will not be rendered inoperative by means of stones, sticks, or other foreign substances interposing themselves between the valve and its seat. The invention has also for its object the ready starting of the valve under a heavy pressure of water, and a quick and rapid movement of the valve after the same has been started, and a suitable provision made for the escape of air from the valve-chest, and to prevent the freezing up of the valve in its chest.

LAP JOINT FOR BELTING.—Henry Underwood, New York city: The object of this invention is to furnish an improved lap joint, by the use of which a belt of nearly uniform thickness and strength may be produced, and at the same time the amount of stock used may be economized.

IRON FOUNDERS' CLEANING MILL.—Stephen D. Horton, Peekskill, N. Y.: The object of this invention is to furnish an improved cleaning mill by means of which the metal remaining in the material left in the furnace, when the melted metal is drawn off, after being crushed or ground, may be separated from the dirt readily and without waste of the metal.

MACHINE FOR BORING WELLS, ETC.—Colin Mather, Manchester, Eng.: This invention relates to a machine for boring wells or other bores in the ground, in which a flat drill rope or band is used, in contradistinction to the ordinary round rope and metal rods, the drill being arranged in such a manner that it makes a part of a revolution after each blow. The drill rope extends over a pulley which is secured to the top end of a piston rod, to which a rising and falling motion is imparted by the action of steam on a piston fitted into a suitable cylinder.

SAND PUMP.—Colin Mather, Manchester, Eng.: The sand or shell pump is provided with a cylindrical barrel similar to that of an ordinary pump, and provided at its lower end with a valve or clack opening upward, somewhat similar to that in ordinary pumps, but instead of being fastened to the cylinder, its seating is an annular frame, which is drawn up against the end of the cylinder by a rod passing up to a wrought iron guide or bridge at the top, where it is finally secured by a cotter or key.

BURNING FLUID.—John Jann, New Windsor, Md.: This invention consists of a composition of benzine 33 gallons, sweet oil half a pint, and oil of vitriol two quarts.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE.

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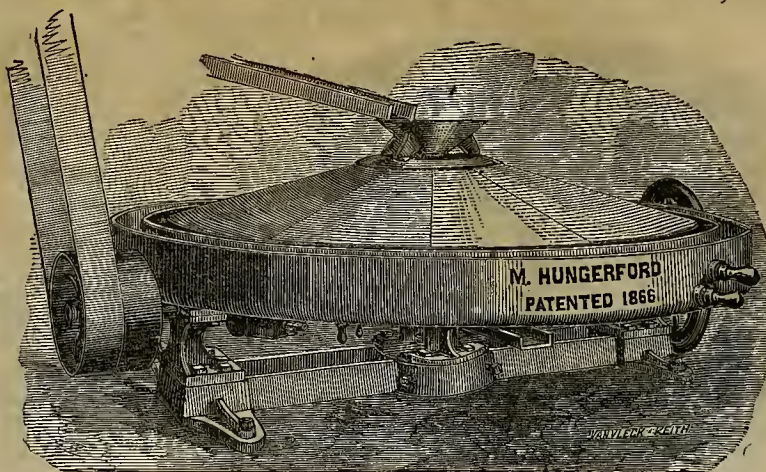


FIG. 1.

For Saving Gold, Sulphurets, Quicksilver, Etc.

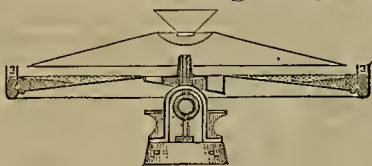


FIG. 2.

have been tried, and many abandoned; all of which have been unable, so far, to attain a profitable separation, and meet the requirement of the mining interest, so well as that now patented by Mr. Hungerford, which is an improvement on the well-known Hungerford & Prater Concentrator, with which his name is already so familiar.

The separating or concentrating action is obtained by centrifugal force and gravitation; the pulp being preserved by water in the proper condition for the operation, and the pan so constructed, mechanically, as to allow the centrifugal force and gravity to expend themselves to the best advantage in producing the separation, as well as to make the machine simple, compact, and easily kept in order.

Fig. No. 1 is a perspective view of the Concentrator while in operation, showing the general arrangement. Fig. No. 2 is a section through the centre of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

Its operation is as follows: The pulp flows from the spout through the filter into the bowl at the top, from which it is distributed equally over the convex cover into the pan near its outer edge. The lightest sand is at once carried off with the overflowing water through the centre opening, and the sulphurets are allowed, from the motion given to the machine, to gravitate to the bottom toward the outer edge, forming an embankment all around the pan, as represented at 1, 1, Fig. 2. The lighter particles of the sand arrange themselves on the top at 2, 2, Fig. 2, from which they are being constantly washed away with the water flowing through the central opening. The sulphurets are, by the centrifugal motion of the machine, made to pass through small openings at the bottom, at intervals of a few inches around the circumference, through the inner wall of the pan to the circular trough, 3, 3, Fig. 2, where they come in contact with the mercury at the bottom, depositing the free metal, from which it is drawn at pleasure by an opening in the bottom, and the sulphurets, in the order of their density, by openings in the sides.

It will be observed that the sulphurets in the trough, 3, 3, are maintained at the same elevation as the sulphurets and overlying sand in the body of the pan. It will be further observed, that by no possible means can the sand in the latter pass to the former in such quantities as to form any considerable percentage of the amount saved. The advantages of this improved pan are continuous action, requiring no attention except to remove the receiving vessels as fast as they are filled from the openings shown on the right of Fig. 2, simplicity in construction, and durability and cheapness of cost.

The pan derives its motion from two eccentrics secured on a horizontal shaft passing across and below the centre of the pan and working between two pairs of adjustable wooden guide blocks or bearings. The eccentrics are so made as to bear equally on the wooden guide blocks in all positions while in motion; giving to the pan the most desirable motion for its purpose, and doing away with all complexity of rods, cranks, wooden frame, etc.

These pans are now being introduced into the best mills in the country. Reference to parties who have tested them can be had by applying to the manufacturers.

Those interested in mining, and who call at the Miners' Foundry to see the one which is there in operation, will have no reason to regret their visit.

M. HUNGERFORD,

Miners' Foundry, First Street.

San Francisco, June, 1866.

[3x13-1m]

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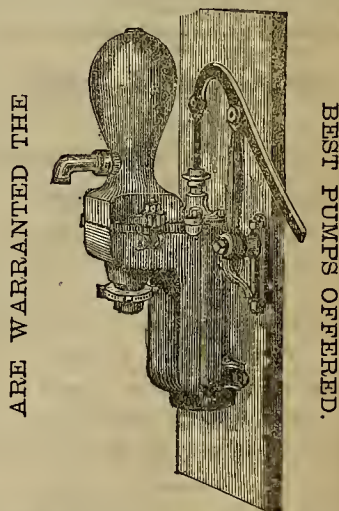
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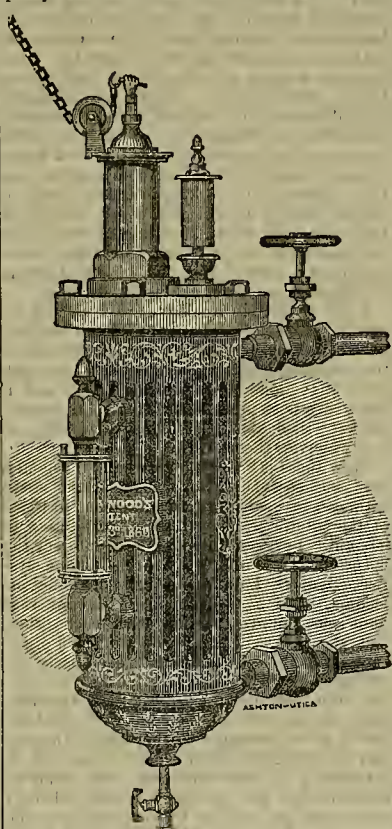
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WOOD'S SAFETY BOILER FEEDER.

The invention herewith illustrated was invented and patented sometime since by Mr. Wood, of Utica, N. Y. Every engineer will admit the want that has long existed for some simple but reliable instrument for governing the height of water in steam boilers, showing the true water-level in the boilers, starting the pump as soon as the water becomes low, and



stopping its operations when a sufficient supply has been injected. The inventor of this feeder claims to have accomplished these objects, thereby removing the danger of explosions resulting from low water. One of these patent boiler feeders, and the first sent to this coast, was recently received at Stoddard's Iron Works, 114 Beale street, where the same can be seen by mechanics and others who may desire to examine it. The patentee gives the following description of this device:

"The feeder is eighteen inches in height by five inches in diameter, and is connected to the boiler by two steam pipes, one passing into the steam chamber of the boiler and the other into the water. This forms an equilibrium, so that the water stands at the same height in the feeder as it does in the boiler. When the water reaches a certain point in the boiler, steam is admitted to the cylinder at the top of the feeder, forcing up the piston. To this piston a chain is attached, (as seen in the cut.) This chain is connected with a belt shipper, clutch, cock, or other means of controlling the pump in such a manner that when the rod is at its extreme height, the pump will be in operation. When the water again reaches the proper height in the boiler, the steam exhausts from the cylinder of the feeder in a vapor, through a whistle which is attached to the feeder, and the piston is forced back to its place by a weight which is attached for the purpose, and thus shifts the belt or other means

of controlling the pump, and stops it. Should the pump, from any cause, fail to supply water to the boiler when it is working, the water falling lower in the boiler opens a valve which is connected with the whistle on the feeder, sounding a shrill alarm until the defect is remedied. The vapor which passes through the whistle when the cylinder exhausts, keeps it free from obstructions, so that it cannot become foul and prevent it from whistling. If it is desired to add an extra supply of water to leave in the boiler over night, a cock in the feeder can be closed, and the pump will start and work until the cock is opened. On the side of the feeder is attached a water gong, with a glass tube, by which is seen the actual height of the water in the boiler."

[Written for the Mining and Scientific Press.]

California Petroleum.

Under the above caption, the *Alta* of the 22d instant has an article, which more than usually abounds in errors and misstatements, even when a more than usual liberal allowance is made for technical items which appear in a newspaper. It is not true that Mr. Charles Stott is the first who produced "the only pure oil of petroleum ever extracted" (on this coast, we presume, is meant). We are assured that such was effected, on a manufacturing scale, so long ago as 1860, by a gentleman well known to the readers of the *MINING AND SCIENTIFIC PRESS* and to the California public generally. The burning oil so made, we have been assured by those who saw it, was of a quality equal to anything imported from the East or made here subsequently by others from the native article. The heavier or lubricating oil so obtained was tried first on the machinery of the Sutter Iron Works, at that time owned by Mr. Gluyas, the present Chief Engineer of the California Steam Navigation Co., who continued to use the same, for lubricating purposes, until he left the works named. So successful was the latter, that a gentleman now engaged in the oil trade has continued preparing the same, by a modified method, especially adapted for machinery purposes, up to the present time, and we understand this article is now being extensively used by several of the principal mills at Washoe and other mining districts.

We would like to have the explanation in detail of the writer of the article under notice, respecting the following piece of scientific sustenance:

"The petroleum of the South are almost inseparable from their combinations, and are the most intractable of all the crude oils found in America. Iron, sulphur, iodine, nitrogen, arsenic, and other materials, impregnate them, and baffle the skill of all, as heretofore applied."

What we wish to be informed of is, the amount, by weight, contained in any given quantity of California petroleum (say 2,000 pounds), of each of the substances mentioned—iron, sulphur, iodine, nitrogen and arsenic—and the rationale of their injurious influence, if any. The fact is, however, that the whole of the substances alluded to form an aggregate so minute that even if their presence, alone or combined, are ever so prejudicial, the total injury could not amount to anything serious, owing to their being present only in what may be termed an infinitesimal quantity.

We also deny that either Mr. Stott or any

other man can possibly separate a pure burning oil from the southern petroleum by a still, such as described, accompanied by the employment of steam and cold water only. If as is stated in the paragraph under notice, a temperature of only 250° is employed, that temperature will only cause to be evaporated hydro-carbon susceptible of evaporation at that degree of heat, accompanied, as is invariably the case, by a small amount of hydro-carbon requiring a higher temperature, being carried over at the same time, and could, if required, be separated by subsequent fractionation. The species of still, described as the invention of Mr. Stott, appears to be similar to that many years ago patented and employed by the late and unfortunate Blatchford Mansfield. Conversing with those practically acquainted with the subject, we are assured that at a temperature of 250°, even with the use of steam as an agent, not more than 20 per cent. of light or burning oil could be procured from the petroleum obtained from the Southern coast. *

GENIUS IN DISTRESS.—According to the *London Mining Journal*, Mr. William Jones and W. H. Jones of Woolwich, father and son, the former of whom spent the princely sum of one million of dollars in scientific engineering labors to establish the practicability of railroads, and who finally founded the railway system of England, is now living in abject poverty, dependent upon charity for the most ordinary comforts of life. If one calls upon him, he cannot even bid his visitor to "take a chair," because that cheap and ordinary piece of household furniture is not included among his household goods. The *Journal* calls upon the thousands who have made fortunes out of railway traffic, to remember the venerable genius who devoted his early fortune and the prime of his life to bringing into practical utility this most magnificent of all the results of modern engineering, and to tender to him that substantial sympathy, the remembrance of which will be to them through all after life, a perpetual source of satisfaction.

CHEMICAL NOMENCLATURE.—The terms "sulphate of sodium," "carbonate of calcium," etc., are now used by chemists. This shows the adoption of Regnault's "binary theory" of acids, etc., and is not the only instance in which the suggestions of that master mind have given shape to the accepted theory of chemistry. Sulphuric acid must now be regarded as H SO₄, instead of SO₃, or SO₃ HO, for the "hydrated" acid; thus becoming a hydrogen acid, similar to the hydrochloric acid, in which the compound substance SO₄ takes the place of the Cl in the latter; and hydrogen has supplanted oxygen as the theoretical acidifying principle.

COMSTOCK LEDGE.—The *Gold Hill News* of a late date says: More ore has been extracted from the Comstock ledge, this month, than at any time for a like period since the discovery of metal in Nevada. We do not know of a quartz mill in good repair that is idle, and we do know that all mills that have achieved a reputation for good, honest work, are in great demand.

IMPROVEMENT IN STEAM BOILERS.

We were recently shown by Mr. John Lochhead, of this city, a new plan, of his invention, for constructing steam boilers, which we deem worthy of special mention. It is formed of 1/2-inch cast iron tubes, three inches in diameter. At the ends and in the center, the tubes are expanded into small square chambers, forming both a support for the tubes themselves and a means of intercommunication from one to the other. When placed in position, one above the other, the apertures form open channels at the ends and center from top to bottom of the whole boiler, which is composed entirely of several layers of these pipes placed one over the other. Being uniform in manufacture, the tubes are bolted together with thin layers of packing, perfectly steam tight. The boiler shown us measured six feet six inches in length, three feet in height, and fifteen inches in width. It is intended to be filled about two-thirds full of water. The fire being applied beneath, the flames and heat pass up between the tubes, which are arranged so as to afford a draft directly over their surfaces. The heat being the greatest in the center, the steam passes up through the central column of apertures in the tubes; the cooler water flowing from their extremities towards the center, and thence upwards, establishes a circulating current through the entire boiler, bringing the cooler portion of the water in constant succession to the hottest portion of the boiler, from which point it is immediately sent up to discharge its steam. It is claimed by the inventor that this movement of the water in the boiler arrests, in a great degree, the incrustation or scale, which takes place the more readily, in proportion as the water approaches to a condition of rest.

The construction of boilers on this principle—which is, in reality, an improvement upon the Harrison boiler—must avoid much of the danger and expense of explosions to which the ordinary boiler is liable. Being compact, it saves room. It can be easily removed and packed to any mine, however remote or difficult of access. We believe there is a general looking forward by engineers for some new and improved method of generating steam and holding it to a higher and consequently more efficient pressure. Hence the interest felt, at the present time, in this and all other intelligent efforts to accomplish the end so earnestly desired by all.

A boiler on a plan similar to the one above described has been made by Mr. Lochhead for a small propeller for the Northern Telegraph Expedition, and we hope ere long to be able to report its practical success.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

The New Gold-Working Process in Mariposa.

EDITORS PRESS:—Having seen in your valuable journal some remarks on the new process of reduction and amalgamation of gold quartz, now being used on the Mariposa estate; which has produced such wonderful results, and as you are rather skeptical, and seem to think that these reports must be received "with many grains of allowance," will you allow me to say a few words on the subject?

I have satisfied myself that these reports are strictly true, and that the results obtained were from a fair average of the rock. I need not tell you that both practical and scientific miners have long been convinced that some more effectual mode of reduction, either independent of or in connection with stamps, must be adopted, and some more perfect amalgamation resorted to; for they are not content to plod along in the old way, knowing as they do that they are not saving more than one-half the gold which the rock is known by chemical assay to contain.

In Colorado Territory this is particularly the case. Rock assaying from one to two hundred dollars per ton has not yielded by working process twenty per cent. of that amount. Many capitalists, deceived by rich assays, have invested hundreds of thousands of dollars in stamp mills, pans, and other machinery, which is now lying there perfectly useless.

A knowledge of these facts has stimulated the ingenuity of many parties to find a remedy for this great waste of the precious metal. Repeated experiments have proved that quartz, to be successfully treated, must be reduced *fine and dry*.

The machine now being used on the Mariposa estate is known as the "Lundgren Pulverizer." It takes its name from the inventor, a Swede, who has patented it in Sweden, France, England, and the United States. The original object of the machine was to reduce all hard substances known and used in the arts, which required to be reduced to a dry, impalpable powder. These machines have long been in general use for that purpose. More than five thousand are used in Paris by chemists, druggists and manufacturers.

The attention of some gentlemen in New York being called to it, and believing it could be applied to quartz crushing, experimented upon it with great success. It was found in the course of these experiments that it was capable of reducing the hardest kind of rock finer, more expeditiously, and with less motive power, than by any method of wet crushing yet known. Its construction is simple, being merely an iron cylinder, of the proper size, suspended and revolving on a shaft through its center. It is loaded with the proper proportions of chilled iron balls, of about an ounce weight, and quartz rock; the rock having been previously partially reduced by rollers, or any convenient crusher. The cylinder, while pulverizing, is air-tight. The usual time of reducing a charge is one hour, which includes the time of loading and discharging. The amount of a charge is in proportion to the size of the machine.

A 5-foot machine, requiring a 5-horse power to drive it, will reduce from seven to eight tons in twenty-four hours, fine enough to pass through a wire screen of "100," being ten thousand holes to the square inch. The quartz is thus reduced to an almost impalpable powder. One thousand to twelve hundred pounds of rock so prepared is placed in a close iron amalgamator, in which superheated steam is applied to it for fifteen to thirty minutes, which drives off all impurities that tend to check amalgamation. The quicksilver is then added to the mass, which is of such intense heat that the quicksilver becomes vapor, and in five minutes thoroughly impregnates it. A cold bath at the top condenses the vaporized quicksilver, which then falls to the bottom, carrying the gold with it. The amalgam is then washed

on a shaking table of a peculiar construction (the movement of which closely resembles the under-tow of the sea), by which none of the quicksilver or amalgam is lost.

Every one knows that the great success of any amalgamator depends on the facility with which it brings the fine particles of gold into contact with the quicksilver; and all who know the power of the vapor of mercury, are aware that it is easier to force that vapor through a mass of pulverized quartz than to bring light particles of gold through water to a body of quicksilver. This is, indeed, reversing the ordinary mode; for instead of using mechanical contrivances to bring the gold within the reach of the quicksilver, the quicksilver is evaporated and is sent in search of the gold. There will probably be many improvements made to this process, but the results show that up to this time no other method so effectual has been applied.

Now, if quartz rock can be so thoroughly disintegrated, and subsequently amalgamated in a close vessel, there is no good reason for the great loss usually attending the working of auriferous quartz. And if this new process is all that it is claimed to be, we ought not to be surprised at this increased yield; and may reasonably believe that many mines that have been abandoned as unprofitable, may be worked to advantage by this new process. A large amount of money has been expended on new processes which have proved abortions, and this like all others will stand or fall on its own merits. The writer of this has no pecuniary interest in the Mariposa or any other mine, but is simply desirous of advancing the quartz mining interest of this State. H.

[Written for the Mining and Scientific Press.]

Letter from Austin, Nevada.

EDITORS PRESS:—I tender you an apology for my neglect of you for some time back, and once more ask a space in your columns. Our section (Austin and immediate vicinity), in gross, is not producing what it should, owing to the fact that many men of incapability are at the head of mining. The present aspect of affairs indicates a dull winter here. My reason for so stating, is the inactivity of large mining corporations. "Why their inactivity?" is asked by all new comers, as well as by those expecting favorable returns from their investments. There are millions of dollars expended in this immediate vicinity. "In what?" In mills. "Mills to do what?" To reduce ores. "Where are those ores?" Still buried in Lander Hill and adjoining hills. "Why are our mines not so worked that they will produce ore sufficient to keep these mills from rusting to decay in idleness?" Ask the miner, he who can judge of a mine; who can, through long and varied experience in mining, form at least a reasonable idea of the whereabouts of a deposit, and who, when it is found, can extract the ores therefrom, without increasing indebtedness over the value of the ores. He will tell you, that all this defect which is believed to be in our mines, is the fault of, and should be charged up to corporations—to the managers of them, to those who are sent here to further works in which there are hundreds of thousands of dollars invested, and much more at stake; but who, to our disadvantage, are entirely ignorant of the requirements necessary for one filling their positions.

We are again asked, "why our mines do not produce bullion?" They do produce bullion, as far as they are properly managed; but further than those so worked, none would vouch for, except one ignorant of mining, or an over sanguine Eastern speculator.

We must therefore await the action of the owners of our mines; we must wait until they can see that it requires a miner in a mine to make it produce, and also that one great secret of making a mine net, is to curtail unnecessary expense. A mine must be of the first order that can pay salaries to officers of \$25,000 per year, or more. The custom has been, and still exists here, to have at least four good salaried officers at the mine: 1st, general superintendent; 2d, the superintendent's assistant; 3d, a helper for the assistant;

4th, book keeper, and last and least, a boy on horse-back to wait on the quartette. It reminds me much of the boy, who being caught in idleness, was asked "What he was doing?" answered "that he was helping his companion." "When asked what his companion was doing?" answered, "that he was doing nothing." So it is with all officers in our "well incorporated companies." Then, in addition to these officers, there must be presidents, trustees and secretaries in the "big office" at the East, all drawing pay. Now I ask any man of reasoning mind, if any mine in embryo, or even fully developed, can live and keep out of the sheriffs' hands under such a weight of extravagance, and all unnecessary? Why not curtail this expense at least 50 per cent. by preventing these folks from helping each other do nothing, and give our mines a chance to pay.

If the companies are afraid their employees will appropriate their money to their own uses, the more they would have to appropriate, each one to keep up his quota of extravagance, let them send out here "one man," one that they can place confidence in, for honesty and ability as a financier; let him be called "Financial Agent," give him instructions to engage a practical miner to work the mine, but be careful that he is instructed not to engage either a watch-maker, dentist or "any other man," for a miner, except one who has mined. From the miner he can learn and improve in knowledge of mining himself; he can be told, with some certainty by him whether the mine is worth working or not. If not, will advise him to try another one. There are thousands of dollars sunk in "inclines" about these hills, (all partial to inclines here) in following after seams of clay (clay being indicative of a ledge, "so say" experts—imported ones), better use these thousands in working in and on a body of quartz, even if it will not assay twenty or thirty thousand dollars, (or thereabouts) than be "poking about" several hundred feet under ground in a seam of clay, just because there is a "splendid smooth wall" visible at times.

I will say here in apology (with all due respect) to those of our superintendents who feel offended at my scrutiny of, and comments on their workings, that I comment as I do with the motive alone of improving them; and if the "shoe does pinch them a little," they must not get "riled," for in so doing, they will certainly convict themselves.

Now there is another idea, which, if the men here and elsewhere would look at and study into, can be made very advantageous to those of the enterprise, as well as to our section in general. I suggest this idea to counteract the effect of, and to improve on, this incline system. Lander Hill has a belt of veins, or feeders, passing through it, which are very numerous, running parallel with each other, and, at places, within a few feet of each other, each owned by different parties, each party following his own vein down after his own fashion, both eventually clashing, then throwing away the proceeds of their labor in litigation, which, when through with, they have no money, and the legal gentlemen have the mines. Nevertheless if all these small rich veins could be combined in one grand enterprise, whereby they could be worked through one common channel, and under one direction, would it not save much individual expense? Such will be done eventually, and when brought into action will astonish us all, to wit: Sink a perpendicular shaft at some given point on this belt or series of veins to a great depth—say 750 or 1,000 feet; make the shaft commodious, timber it well and securely, so that it will last for time; sink to a depth greater than any others have sunk or can sink, so that there will be no conflict, when, having gained the desired depth, start drifts, and run them at right angles with and across or through all these veins that come in the way of the tunnels. Extract, mill the ores from all these veins so found, and appropriate the bullion to the company.

These veins from which ores are extracted may not virtually belong to the enterprise, but they can easily become its property. When a claimant to one particular ledge charges that his ledge is being worked by the enterprise, and the proceeds applied "not to his benefit," he cannot prove that it is his ledge—he does not have the means to sink to that great depth—but the enterprise will give the claimant a chance that it may be his by purchasing it of him at reasonable figures, or by so many shares of stock in the enterprise. So in this manner, with but one single vein to commence with, title can be obtained to most of the hill. In my opinion it is the only practical way to work this hill, and is the plan that must and will be adopted, sooner or later. It will cost no more to do this work than it has cost many mines on the hill in hammering away, "gophering," and doing nothing.

Some of our mines are turning out bullion.

The Great Eastern, Savage, Diana, Morgan and Muncie, North Star, and Tunko, are the principal ones. The Keystone and California mills are running regularly, and the Ware mill at intervals; also the Cortez mill, and Buel's mill at Belmont (Philadelphia District). The latter two are sending in bullion almost daily, and are doing remarkably well.

Bullion shipments for the month of August were \$71,059. That for the month of September were \$77,172.72. Still not as large as we would wish. PROGRESS.

Austin, October 12th, 1866.

[Written for the Mining and Scientific Press.]

From Sierra County.

BY AN INDEPENDENT CONTRIBUTOR.

[Continued from page 211.]

EDITORS PRESS:—From the Sierra Buttes Copper mine previously described, and following the granitic belt in which it occurs, south-erly to the crest of the dividing ridge of the waters of the Northerly and Middle Forks of the North Yuba, over a country densely covered with timber, we notice frequent indications of metalliferous veins, and a "big thing" of the grizzly order and bearish manners (*versus hominilis*). Our mules either not liking the odor of his bearship, or his uncivil salutation in the way of a civil growl, came to the sage conclusion that "discretion was the better part of valor," and bent a retreat, which we ingloriously seconded to the best of our ability. Following the divide westerly down the ridge for some two miles, the formation suddenly changed to a volcanic tuff, filling a declivity in the ridge, and extending for about 3,000 feet, when granite intervenes. Underlying this bed of volcanic material some 500 feet, sedimentary beds of stratified sandstones and clay were seen slightly dipping to a common center, under which, and on the formation, which is in places denuded of soil, the ordinary water-worn gravel and boulder deposit usually found in river beds is seen, containing more quartz, however, than is found in the present river channels, affording unmistakable evidence of its having been the remains of an ancient river of considerable width, which flowed from the north in a southerly direction, and contrary to the present river system; the Yuba river having in its westerly course eroded its almost indestructible volcanic covering down through its granitic walls, scattering its contents, and cutting a still deeper gorge of some 1,500 or 2,000 feet below its bed; thence northerly, re-crossing the river and following a deep canon to its source on the northerly divide. We find similar indications of river deposits, covered by breccia and tuff. From its apparent course it would have taken its rise in the direction of the volcanic peaks in Plumas county. The ravines in this vicinity are said to prospect well. But very little prospecting, however, has been done so far up in the mountain chain, and no systematic explorations. Were the same indications found at the North Pole, it is quite possible they would have been thoroughly tested before this. To the westward, about three miles, is seen the Sierra Buttes, its pinnacled and serrated peaks sharply cutting the horizon, its precipitous and rugged cliffs rising with nearly perpendicular walls for nearly 2,000 feet, a small lake lying in a declivity or nook in the rock under one of its most inaccessible cliffs. To the right (northerly) the country flattens out, forming table land or small plateaus, heavily timbered, said to contain some 30 or 40 small lakes, well stocked with mountain trout. From our standpoint four lakes were visible. The waters of the Feather and Yuba rivers here join hands and take a drink before bidding each other God speed on their downward journey to the father of waters. After admiring the beauty and grandeur of the scenery—which I have made, but a feeble attempt, to portray—a few hours' ride finds us under the hospitable roof of the gentlemanly manager of the Sierra Buttes mine, who, with his courteous assistant, Mr. W. Farrish, not only welcome us to their mountain home, but promise to-morrow to show us one of the best mines in the State. *Nous verrons.* VIAADOR.

Your compositors make me tell some queer stories occasionally. In my last communication, "for 49 per cent. gold per ton," read: \$49 per ton. For "with the depth the ores increase in richness and will average 50 per cent.," read: In depth the ores increase in richness and will average 50 per cent. copper."

[We convict the compositor in the second degree for the first error, but the last was clearly an omission in the manuscript.—Eps.]

Mechanical.

Ancient Workers in Iron.

It is probable that the first manufactured iron ever produced was in the form of malleable iron, highly carbonized, in consequence of the manner of its production. The method employed in this day by the natives of Central Africa, for producing iron, is supposed to be substantially identical with that of the most ancient workers in that metal. This method is described as follows: A circular furnace of clay, about ten feet high by three in diameter is constructed, near the hearth of which and through several tubes of clay, used as tuyeres, air is forced, generally by blowing with a kind of bellows made of a goat skin. A charcoal fire is made upon the hearth, upon which a stratum of ore is placed. Charcoal is subsequently added, from time to time, as occasion requires and the fire kept up by a continual blast, for about three days, when the whole is allowed to cool, and a portion of the furnace taken down to obtain the iron, which is found in a irregular mass upon the hearth. This mass is sonorous, and when broken presents a granulated appearance like steel. It is in this condition fit to be directly wrought, by forging, into ordinary cutlery. Being highly carbonized, it possesses the quality of steel. The African smith refuses to use English iron, which he characterizes as "rotten" compared with his own.

The Hadon iron smelter, also, to this day builds his furnace and obtains his iron in the same manner. The lump of iron thus produced is called *wootz*, and is said to be of a quality which the most expert manufacturer of Europe cannot equal. Out of this *wootz*, by a subsequent melting and refining, in the presence of carbonaceous matter, the finest Indian sword-blades are made, the wonderful temper of which, as of the Damascus blades, European artisans have never been able to equal.

The ancient metallurgists entertained the idea that by burying iron in the earth until the greater part of it was converted into rust, the remainder was the better prepared for being forged into weapons, etc. This idea still prevails, and the custom is practiced to this day in Japan. However much experience may seem to warrant the practice, science fails to find any reason for it. Some of the old English Sheffield cutlers, who were famous years ago for turning out the most superior cutlery of their day, were in the habit of placing their bundles of steel, before being worked, in the mud of some water course, where they were suffered to remain for some weeks, under the impression that by this process they were greatly improved. Science is again at fault to discover the *raisonne*. Yet it is stated that on removing the piles of Old London Bridge, the wrought iron of which they were made was found to be of such superior quality that a celebrated cutler bought up many tons of it for conversion into steel, he claiming that the action of moist clay upon it, without exposure to the atmosphere, had produced such an effect as to render it almost equal to steel.

TEMPERING STEEL.—In hardening steel it will sometimes crack when suddenly plunged into cold water. To prevent this result, the surface should be covered with a paste of flour and powdered prussiate of potash, then dried. The steel should then be raised to a low red heat, in a clear fire, then plunged into cold water. It will come out perfectly free from cracks. In hardening articles of steel, the cracking is most generally cured by heating to a rather high temperature before plunging into cold water. The above process will steel the surfaces of iron journals, such as those of wagon axles, etc.

AN ALLOY composed of ten per cent. aluminum and ninety per cent. of copper, resembles gold in color, and takes a polish equal to steel. In these proportions, this alloy is said to be a chemical, and not a mere mechanical compound, like most of the brasses and bronzes. This alloy is now used with much success in France, for the bearing boxes of locomotives.

A VERY CURIOUS CASE OF EXPANSION was observed and explained some years ago, by the Rev. Canon Mosely. The choir of Bristol Cathedral, in England, had been covered with sheet lead, the length of the covering being sixty feet, and its width nineteen feet. In two years after it was laid on—viz. in 1853—it had moved bodily down or lengthwise a distance of eighteen inches. The descent had been noticed for some time as proceeding gradually, and efforts had been made without success, to arrest its progress by driving nails through it into the roofing. The force with which the lead descended was sufficient to draw out the nails. The roof was one of gentle descent—and one on which the lead would not have slid, by gravity, even if it had been placed there without any attachment to the wood work.

What was the cause of the descent? Simply this: The metal was exposed to the varying temperatures of day and night. During the day the heat imparted to it caused it to expand. Had it lain upon a horizontal surface, it would have expanded equally all round; but as it lay upon an inclined surface, it expanded more freely downwards than upwards.

The entire spread of metal was upon one declivity of the roof. Had the roof been flat, as already intimated, the contraction at night would have brought the expansion of each day back to its starting point; but being on an incline the chief portion of the expansion of each day was taken up by the night's contraction in a downward direction. Its motion, therefore, was much like that of the common earth-worm, it pushed its lower edge forward during the day, and drew its upper edge after it during the night, and thus by degrees was actually crawling off from the roof! It had crawled eighteen inches in two years. Had it been secured by a sufficient number of nails, or by any means so as to have held its weight in a perpendicular position, it would not have moved, except by alternate expansions and contractions from and to the same points.

CORK SPRINGS.—For many mechanical uses it is often found necessary to employ springs of great power and elasticity, such, for instance, as will break down the elasticity of India rubber. For such severe work, cork has recently been found the most reliable substance. The cork used for these springs is of the commonest description, harsh, hard, and full of fissures. It is cut into disks of about eighteen inches diameter, each pierced with a central hole. Previous, however, to cutting, it is soaked in a mixture of molasses and water, which gives it some softness and renders it permanently moist. These cork disks are placed in a cylindrical cast iron box, a flat iron lid or disk is placed over them, and by hydraulic pressure they are forced down, so as to reduce the thickness to one-half. A bolt is then run through box, corks, and cover at the center, and a nut being screwed on holds all in place, when the press is relieved and the box of compressed cork, disk, or cork spring is ready for use. One of these springs, placed in a testing machine under a weight of 20,000 pounds, showed an elasticity suggestive of compressed air. A pressure which destroys India rubber, causing it to split up and lose its elasticity, leaves the cork unimpaired, and it has been impossible, with any pressure hitherto attainable, to injure the cork, even when areas of but one inch were acted upon. Mr. W. Sellers, an English machinist, has had for some five years a forging machine in which a spring of the form and material above described was subjected to continual and violent shocks, and its performance had been most satisfactory, with no signs of deterioration.

WARLIKE INVENTIONS.—Among other tremendous machines recently patented in France are: An electrical mortar; a steam cannon to pour forth a hail of shells and cannon balls for an hour without ceasing; a steam field-gun; a rifled carbine, to fire thirty shots a minute (two men are required to carry it); and an infernal box belching forth a thousand balls, and intended to annihilate a whole regiment at a blow.

ARCHAEOLOGICAL floors of concrete, or beton, a mixture of broken stone, sand and hydraulic cement, are being put down in Paris without any support of vaults, girders, or the like. The material is simply packed in or molded on timber centerings, which are withdrawn when the concrete has "set."

Scientific Miscellany.

THE ANOMALIES OF NATURE.—Nature, as developed by the progress of human knowledge, is full of anomalies, which no foresight can predict, and which experiment alone can reveal. Until within a few years, man rested in the conclusion that heat always produces contraction, with the single exception of water, which exception has been regarded as a providential provision, without which the waters of the globe would have become vast seas of ice. Recent experimental research, however, has shown that the metal bismuth is also an exception. Other similar exceptions may yet be found. If metal be compressed, heat is developed; but if a metallic wire be stretched, cold is the result. This rule is supposed to be general; at least a very large number of experiments have as yet revealed no exceptions, so far as the metals are concerned. In applying the rule to organic substances, one single exception only has as yet been discovered, although there may be others which future experiments will reveal. The exception alluded to is India-rubber; a thin strip of which, say three inches long and half an inch wide, develops a degree of heat strongly affecting the thermo-electric pile. The converse of this is also true; for while a strip of metal will expand on being heated, India-rubber sensibly contracts on the application of heat. Thus in the physical world, as well as in the moral, acts are never isolated. As in the moral, one deviation from an established rule invariably brings with it others as consequences; so it is in the physical. This is proven by the double deviation in the organism to which we have just referred.

ALCOHOL IN GINGER BEER.—At the present time of extreme ideas on the temperance question, it may be considered something of interest, beyond the scientific facts involved, to know that certain portions of alcohol are imbibed even in drinking a glass of "ginger-pop," and that he who would abstain entirely from alcoholic mixtures must not taste even that simple beverage. The more the beer is "up," as it is termed, the more certain it is that alcohol is present. It is well known that ginger beer is made with sugar, ginger, etc., and set to ferment before it is bottled. Now it is during the fermentation of the sugar that spirit is produced, and to show its presence it can be easily separated by distillation. In making this statement we merely wish to correct a popular error—that ginger beer is free from spirit.

NEW PRODUCE.—The editor of Decker's *Mining Record*, published at Melbourne, Australia, has had shown to him a sample of a singular deposit found between Mount Gambier and the Coorong. In appearance it is exceedingly like India-rubber, and in some respects it is said to be similar to what is called native bitumen. There is a considerable deposit of it, and it is got from a little below the surface.—*Exchange*.

A similar substance is found in this State, which we presume is identical in character with the above. It is highly plastic. Under the warmth of the hand it may be worked and drawn, like molasses candy in the "pulling" process. It has the color and smell of bitumen, and is probably a modification of that well known substance. It undoubtedly contains a large percentage of paraffine, and probably less oxygen than bitumen.

ARTIFICIAL SALTPETRE.—Mr. J. Bernhard, of Paris, has recently produced an artificial saltpetre by a process which at the same time yields, as by-products, white lead and ammonia. He proposes to mix 157 parts of nitrate of lead with 39 parts of carbonate of ammonia, to obtain carbonate of lead and nitrate of ammonia. To the nitrate of ammonia thus obtained he adds 28 parts of lime, by which nitrate of lime is produced and ammoniacal vapors given off, which are collected in the usual way. The nitrate of lime remaining is mixed with 87 parts of sulphate of potash, by which an insoluble sulphate of lime is formed, and a soluble nitrate of potash, which upon being concentrated yields saltpetre in crystals.

The mean annual of rain that falls at the equator is ninety-six inches.

PETROLEUM AND ASPHALTUM.—Linseed oil and several other vegetable oils have the property of absorbing oxygen, and combining with it chemically to form a resin. It is this property of drying oils which renders them suitable for paint.

Petroleum contains no oxygen. It is composed wholly of carbon and hydrogen, being a mechanical mixture of several hydro-carbons. Asphaltum is a resin, being composed of carbon, hydrogen and oxygen, and it has been suggested that asphaltum is produced by the conversion of petroleum into a resin by the slow absorption of oxygen. But this is a mere hypothesis. No one claims to have succeeded in converting petroleum into asphaltum. After months of exposure the oil remains without any appearance of resin even upon its surface. It is as reasonable to suppose that under certain conditions the vegetable matter is converted directly into asphaltum, as that it is first changed to petroleum and then to asphaltum. Asphaltum lakes may suggest the presence of petroleum in the vicinity, but they are no proof of its presence.

ERASING PENCIL MARKS WITH INDIA RUBBER.—The *New York Gas Light Journal* copies our explanation of the reason why India rubber erases pencil marks, and adds: "India rubber, when subjected to friction, becomes electrically excited, and attracts the particles of graphite (of which the pencil marks consist), when loosened by the abrasion of rubbing. Hence, a quick motion is more effective in removing pencil marks, because the electrical excitation and attraction is greater." Our explanation was substantially as follows: India rubber consists mainly of carbon; and when the carbon of the rubber is brought in close contact with the carbon of the pencil mark in the process of rubbing, the smaller quantity of carbon in the pencil mark is attracted by the larger mass of carbon in the rubber, and is thus removed from the paper.

SCIENTIFIC FACTS.—Assuming the temperature of the interior of the earth to increase uniformly at the rate of one degree to every forty-five feet, at the depth of sixty miles the degree of heat would be sufficient to fuse all known substances.

As much nitrate of soda as can be held between the thumb and fingers will preserve flowers for a fortnight.

Hydrate of lime will absorb very thoroughly the carbonic acid in ships' cabins and other close apartments.

It is stated that soap manufactured from coal oil will remove all kinds of stains and dirt.

INDESTRUCTIBLE BOTTLE LABELS.—Bottle labels may be made indestructible by coating them with white of eggs, and staining them until they become opaque, and then drying them in an oven at 212°. The albumen becomes hard and transparent, and is unaffected by oils or acids.

A single ounce of gunpowder, placed at an angle of forty-five degrees, is capable of projecting a twenty-four pound ball a distance of three hundred and fifty yards.

A few drops of a solution of permanganate of potassa, made of one drachm to one ounce of water, will instantly purify cistern water which is foul from decomposing organic matter.

A peculiar iron ore has been discovered in Ireland. It looks like plumbago, and leaves a greasy feel, but by analysis contains 91½ parts of ferrous oxide and 9½ of insoluble matter.

When ordinary steam is superheated, its expansion for the first five degrees is three times greater than that of air.

M. W. BALDWIN, of Tacony, Pennsylvania, died on Sept. 7th. This death is a notable one, inasmuch as Mr. Baldwin built, in 1829 the first locomotive constructed in this country. It was an experiment, and was a small affair, run upon a circular track laid down in the Arden, in Philadelphia. From that time he devoted himself to the business of locomotive building. His works increased in extent until they furnished employment to one thousand men. He occupied a prominent position, and was noted for his liberality.

THE GILA RIVER PLACERS are reported to prospect from one to three dollars to the pan "from the grass roots down." The *Denver News* of 5th October says that a company of five or six hundred persons will start from Santa Fe about January 1st, to explore those regions. The distance is some 400 miles. The danger from the Apaches is so great that such exploration would be impossible except to a large and well-armed party.

MINING SHAREHOLDERS' DIRECTORY

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT OF ASSESSMENT.	DAY OF DELINQUENT SALE.	DAY OF PAYMENT OF DIVIDENDS.
Adella G. M. Co. \$1.		Nov 24-Dec 15	
Alaville G. M. Co. \$50c.		Nov 5-Nov 22	
Belcher G. M. Co. \$33.		Nov 15-Dec 18	
Belcher G. M. Co. \$11.		Nov 17-Dec 18	
Cosala S. M. Co. Mex. \$1.		Oct 31-Nov 19	
Crown Point, dividend, \$30 ft.		Payable June 15	
Confidence S. M. Co. Storey Co., Nev. div. 10 p. c.		Pay July 9	
Confidence S. M. Co.		Annual Meeting Nov 9	
Diana G. & S. M. Co. Nev. \$5.		Oct 5-Nov 2	
Dancy G. & S. M. Co. Nev. \$5.		Nov 2-Dec 3	
Ethra Allen O. & S. M. Co. \$50c.		Nov 6-Nov 27	
Eureka, San Juan, dividend \$1.50 per sh.		Pay Indly—Sept 3	
Empire M. & M. Co. dividend.		Payable Oct 10	
Enterprise O. & S. M. Co. \$75c.		Nov 19-Dec 10	
Great Central M. Co. \$1.		Nov 15-Dec 3	
Gen. Washington G. & S. M. Co. Oct 20-Nov 6			
Gould & Curry, dividend \$30 ft.		Payable June 8	
Great Central M. Co. \$1.		Nov 15-Dec 3	
Humboldt G. & S. M. Co. Nev. \$2.		Nov 1-Nov 27	
Hampton G. M. Co. Del Norte Co. 18c.		Oct 19-Nov 5	
Hale & Norcross, dividend.		Payable Oct 15	
I. L. G. & S. M. Co. \$1.50.		Oct 31-Nov 20	
Imperial G. & S. M. Co. dividend \$50 sh.		Payable Sept 15	
Independent C. M. Co. Dividend.		Payable Sept 1	
Jefferson G. & S. M. Co. Yuba Co. Div. \$10 sh.		Payable Aug 23	
Kaysome M. Co. Calaveras Co. \$5.		Oct 22-Nov 10	
Kearney M. Co.		Annual Meeting Nov 13	
Lady Bell H. M. Co. 10c.		Nov 19-Dec 6	
La Roca G. & S. M. Co. \$1.		Nov 8-Dec 5	
La Victoria G. M. Co. \$1.		Oct 9-Nov 1	
Liberty G. & S. M. Co. Mex. \$5.		Oct 27-Nov 12	
Mount Tenabo S. M. Co.		Annual Meeting Nov 22	
Mina Rica de las Flores M. & M. Co. \$1.		Oct 2-Oct 27	
N. P. G. & S. M. Co. \$1.		Nov 5-Nov 25	
Nuestra Señora de Guadalupe S. M. Co. \$1.		Nov 3-Nov 27	
Nonpareil F. H. & R. R. Asso. \$12.50.		Nov 12-Dec 12	
Napoleon C. M. Co. \$3.50.		Nov 21-Dec 10	
Ophir S. M. Co. Nevada, \$6.		Nov 19-Dec 10	
Ophir of the Colorado S. M. Co.		Annual Meeting Nov 19	
Overman S. M. Co. \$5.		Nov 17-Dec 1	
Providence G. & S. M. Co. \$2.		Nov 21-Dec 8	
Patrolina and Dolores S. M. Co. Mex. \$1.25.		Nov 17-Dec 3	
Pacific Rolling Mill Co. \$1.		Nov 27-Dec 13	
Rope Gravel M. Co. \$1.		Nov 5-Nov 21	
Salamander G. & S. M. Co. 20c.		Nov 24-Dec 10	
San Marcial S. M. Co. Mex. \$1.		Oct 15-Nov 21	
San Francisco G. M. Co. \$1.		Nov 8-Dec 5	
Sierra Nevada S. M. Co. \$2.50.		Nov 3-Nov 20	
San Diego M. Co. dividend.		Payable Oct 9	
Savage S. M. Co. dividend.		Payable Oct 9	
Stadumme M. O. & S. M. Co.		Meeting Nov 5	
Telluride G. & S. M. Co. \$1.		Nov 15-Dec 5	
White & Murphy G. & S. M. Co. \$1.		Oct 21-Nov 11	
Yellow Jacket S. M. Co., div. \$50 sh.		Payable Oct 15	

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, October 26, 1866.	
	81d. Asked.
United States 7 3-10ths.	\$ 74
Gov. Legal Tender Notes.	70 1/2
Standard Bonds, 7 1/2 cent.	81 1/2
San Francisco Bonds, 1858, 6 1/2 cent.	100
San Francisco Bonds, 1858, 6 1/2 cent.	72
San Francisco Gas.	58
San Francisco Bonds, 1858, 6 1/2 cent.	69
Sacramento City Bonds, 6 1/2 cent.	19
Sacramento County Bonds, 6 1/2 cent.	61
Shasta County Bonds, 10 1/2 cent.	75
Yuba County Bonds, 10 1/2 cent.	85
Butte County Bonds, 10 1/2 cent.	80
California Navigation Co.	67
State Telegraph Stock.	32
Sacramento Gas Co.	75
Spring Valley Water Co.	58

RAILROADS.	
Sacramento Valley Railroad.	—
Ouachita Railroad.	55
Central Railroad Co.	65
North Beach and Mission.	45
MINING STOCKS.	
Alpha.	\$ —
Baltimore American.	\$ 70
Bullion, G. H.	14
Becher.	55
Confidence.	50
Ophir.	82
Gould & Curry.	390
Empire M. & M. Co.	99
Savage.	1180
Chollar-Potosi.	112
Hale & Norcross.	1700
White & Murphy.	—
Sierra Nevada.	1 1/2
Yellow Jacket.	68 1/2
Overman.	100
Crown Point.	100
Imperial.	81

San Francisco Market Rates.

WHOLESALE PRICES.	
FRIDAY, Oct. 26, 1866.	
Flour, extra, 100 lb.	6 50 @ 6 75
Do, 100 lb.	6 25 @ 6 50
Corn Meal, 100 lb.	2 00 @ 2 10
Wheat, 100 lb.	1 60 @ 1 80
Oats, 100 lb.	1 45 @ 1 65
Barley, 100 lb.	85 @ 1 00
Beans, 100 lb.	3 80 @ 5 00
Potatoes, 100 lb.	75 @ 1 00
Hay, 100 lb.	5 00 @ 13 50
Do, 100 lb.	8 00 @ 10 00
Beef, extra, dressed, 10 lb.	10 @ 12 1/2
Sheep, on foot.	4 00 @ 5 00
Hogs, on foot.	8 @ 9
Hogs, dressed, 10 lb.	12 1/2 @ 13
GROCERIES, ETC.	
Sugar, crushed, 10 lb.	12 1/2 @ 13
Do, 10 lb.	10 @ 11
Coffee, Costa Rica, 10 lb.	24 @ —
Do, Rio.	24 @ —
Tea, Japan, 10 lb.	80 @ 90
Do, Green.	60 @ 1 25
Hawaiian Rice, 10 lb.	9 @ —
Chin. do.	6 1/2 @ 7 1/2
Cash. do.	65 @ 70
Candies, 10 lb.	16 @ 23
Ranch Butter, 10 lb.	35 @ 45
Isthmus do.	30 @ 40
Choisee, California, 10 lb.	10 @ 17
Eggs, 1 doz.	50 @ —
Lard, 10 lb.	18 @ —
Ham and Bacon, 10 lb.	20 @ 21
Shoulders.	12 1/2 @ 16
Retail Prices.	
Butter, California fresh 10 lb.	45 @ 55
Do, pickled 10 lb.	38 @ 50
Do, Oregon.	35 @ —
Do, New York, 10 lb.	40 @ 50
Cheddar, 10 lb.	18 @ 25
Honey, 10 lb.	20 @ 40

Eggs, 1 doz.	— @ 60
Lard, 10 lb.	22 1/2 @ 25
Bacon and Bacon, 10 lb.	22 1/2 @ 25
Cranberries, 10 gal.	75 @ 1 00
Potatoes, old, 10 lb.	— @ —
do, New 10 lb.	1 1/2 @ 1 15
Onions, 10 lb.	2 @ 3
Apples, No. 1, 10 lb.	3 @ 6
Pears, table 10 lb.	8 @ 10
Plums, dried, 10 lb.	20 @ 22
Peaches, dried, 10 lb.	15 @ —
Oranges, 10 doz.	50 @ —
Lemons, 10 doz.	75 @ —
Chickens, 10 doz.	87 @ 1 12
Soap—Fats & C. O.	8 @ 10
Cash.	— @ 16

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

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ANTISELL—The Manufacture of Photogenic or Hydro-Carbon Oils, from Coal and other Bituminous Substances, capable of supplying Burning Fluids. By Thomas Antsell, M. D. 1 vol. 8vo.	3 00
BUCKLAND (Rev. Wm.)—Geology and Mineralogy. 2 vols. 8vo. cloth.	10 00
DUFRENOY.—Mineralogie. 5 volumes, 8vo.	20 00
DANA'S Manual of Mineralogy. Revised edition. 260 illustrations. 12mo. cloth. New Haven, 1833. School Edition.	2 25
DANA'S Manual of Geology. Numerous Illustrations. 8vo. half morocco. Philadelphia, 1835.	5 75
DANA'S Text-Book of Geology. Illustrated. 12mo. cloth. Philadelphia 1851.	7 25
ELDERHORST'S Blowpipe.—Analysis and Determinative Mineralogy. Third edition, revised. 8vo. cloth. Philadelphia, 1866.	1 50
FAIRBAIRN.—Iron: its History, properties, and Processes of Manufacture. By Wm. Fairbairn, C. E., LL. D. 1 vol. 8vo. New Edition.	4 00
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HUMBLE.—Dictionary of Geology and Mineralogy. Third Edition, Revised. 1 vol. 8vo. cloth.	9 00
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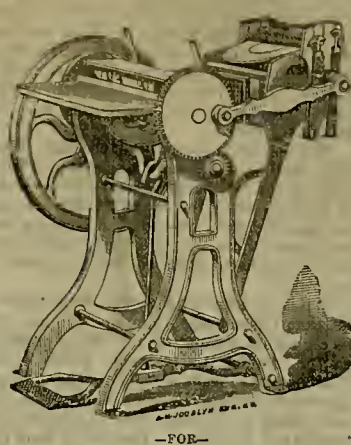
We have lately associated with us in the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner.

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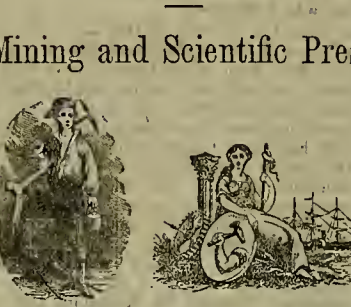
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JOB PRINTING



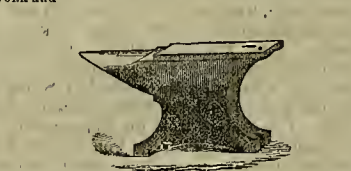
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1867 JANUARY 1st, 1867

Commencement of Fourteenth Volume

Mining and Scientific Press

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Editorial Expressions:

Following are some of the many opinions generously expressed by our neighbors:

MINING AND SCIENTIFIC PRESS.—The paper whose name we have just written, ranks among the leading scientific journals of the world. On mining matters it certainly has no equal, and more than all other causes combined, it has advanced the interests of the quartz miners of the Pacific Coast. Its editors are men of thorough education and large practical experience, and its list of contributors embraces many names distinguished in the various fields of scientific exploration and mechanical invention. The MINING AND SCIENTIFIC PRESS ought to circulate universally among intelligent Californians, to whom we most cordially commend it, and its traveling agent, O. P. Truesdell, who is now canvassing this city and county, and will shortly visit other countries in the southern part of the State, in its interest. [Stockton Daily Independent, Sept., 1866.]

"SULPHURET" and "Our Lady Correspondent," of the MINING PRESS, have each contributed an interesting article on Mines and Mining in Amador county. Hope they will keep up the fire. One of our subscribers complains that "Sulphuret" fell into an error, in stating that the sulphurets of the middle or Jackson range are richer than those on the upper or Pine Grove. He thinks it is just the reverse. [Amador Ledger.]

VOLUME TWELFTH.—The MINING AND SCIENTIFIC PRESS with its last issue, commenced its twelfth volume. Since Dewey & Co. have "held the ribbons" its gait has been rapid toward a perfect journal. Its appearance evidences its prosperity, but doubtless, like some of the rest of us, it can stand increased encouragement. Let such be given, and our word for it, volume thirteen will acknowledge receipt. [Golden Era.]

MINING AND SCIENTIFIC PRESS.—We received a visit a few days since, from Mr. Wood, agent for the MINING AND SCIENTIFIC PRESS, who is now canvassing this county for subscribers to that valuable journal. The Press is invaluable to miners and mechanics, being the only journal of any importance on the coast entirely devoted to their interests. [Mountain Messenger.]

STRENGTH FOR IT.—The large, illustrated sixty-four column weekly newspaper—the San Francisco MINING AND SCIENTIFIC PRESS—should be taken by every miner, prospector, and intelligent citizen throughout Colorado, as it gives a hint of most useful information to be gained on other way on mining matters generally. [Rocky Mountain News.]

The publishers intend to make it the "Scientific American" of the Pacific Coast. Every miner should have a copy of it in his cabin, for it will be filled with useful information in the pick and shovel fraternity. [Trinity Journal.]

It contains correspondence from different sections, giving accounts of new discoveries in gold, silver and copper, and should be taken by every person who wishes to keep well posted on the developments of our State and the Territories. [Mountain Messenger.]

The MINING PRESS is particularly the miners' journal, and is doing more for the solid interests of the State than any other, by enabling its readers to unlock the mines of untold wealth which lie waste around them. [Mountain Messenger.]

The public should support the enterprise of the MINING PRESS, one of the best papers in the State, by a liberal patronage, as it is only by a system of legitimate reports that our mines can be favorably brought before men of capital here. [Calaveras Chronicle.]

It embraces one of the finest fields in the world, and seems to improve it. * * * It will be second to no scientific record now published on this continent. [Los Angeles News.]

Prof. J. D. Whitney's address on Mining, is given entire. * * * We preserve the Press, and would like to have a full file. [Napa Reporter.]

Friends pleased with our efforts in the publication of the PRESS can render us essential aid by furnishing correspondence and all important information which may come under their observation, and by calling the attention of their neighbors to the commendable features of the paper; the appreciation of which favors will be duly manifested by the constant improvement of our journal.

Specimen copies will be sent free to those desiring to examine the paper before subscribing. Postmasters, Express Agents and News-dealers, acting as our agents, will receive liberal commissions.

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C. W. M. SMITH..... W. E. EWER..... A. T. DEWEY.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the *Miner* of October 20th: The workmen in the Morning Star mine are now getting out large quantities of first and second class ores. The width of the vein of black and yellow ore is full twenty feet where they are now working. It is estimated that there is now on the dump, ready for hauling, over two hundred tons of ore.... The demand for horses in Monitor has never been so great as now since the exodus after the excitement of 1864.... The Mowyer has just now such hard rock that twenty-three shifts completed only ten feet.

The Silver Mountain *Bulletin* of October 20th says that ten days more will put the Washington mill in running order.

Amador County—

From the *Ledger* of October 20th: The Railroad company have completed their splendid new steam hoisting works. The shaft is now 305 feet deep—rock good.... The Eureka, with its sixty stamps and 1,200-foot shaft, goes night and day.... The Wildman, the mine that cost \$50,000 to prospect, is still yielding plenty of ten-dollar ore.... The New North extension of the Union, Smith & Patterson, shows plenty of free gold and good sulphurets.... The Mechanic is progressing slowly, but everybody seems to think it will prove valuable.... Tubbs & Ch. have struck a fine prospect near the Gate, and purpose rebuilding their San Andreas mill on the lode at an early day.... Dr. Wm. Sharp & Co. have expended a large sum in prospecting between the Gate and the Oneida. Some good rock has been found, but not enough, as yet, to give it a permanent value. The indications are that it is the same range with the Coney & Bigelow.... The Austrian, Steckler & Co., has been conditionally sold to Atchison & Co., of Washoe.... Pine Grove, Vaughn & Co., are driving a tunnel.... The Italian is still yielding good rock, and will show some big clean-ups as soon as there is rain enough to start the mill.... The Anacapa's air shaft is through. The boys saved about \$300, specimen rock, last week.... Paugh's mill is now going. He has about 600 tons of fine looking rock on hand. The shaft has now reached a depth of 115 feet.... In the Oneida a new and deeper level is now being run between the south and middle shaft, and the ore appears even better than usual.

The Spanish mine, located about two miles from Jackson, and owned by Fenton & Co., is proving very rich. They are now down 110 feet, with a wide vein, and the prospect gets better the deeper they go. We have been shown some specimens, taken out last Tuesday, that are full of free gold—one piece is completely speckled with it.

Calaveras County—

From the *Copperopolis Courier*, Oct. 20th: At Angel's, the 30-stamp quartz mill of Southall & Co., is nearly completed and ready for running. This is a first class mill in all respects. Messrs. Baker & Co., have been running their "reconstructed" mill of twenty stamps for the last two weeks with good success. Bowie & Co. run their mill night and day, having an inexhaustible supply of good paying rock. The mine of Stickle & Co., is also paying handsomely, the gold being equally diffused through a vein of ten feet in thickness. Angels presents a livelier appearance now than at any time for the past six years. The buildings are all occupied and everybody busy.

At Carson Hill, Davis & Co., are working the old Morgan claim, with a view of putting up a mill early next spring. They are taking out very rich rock, the vein being large and well defined. The mine is situated at the summit of Carson Hill, and on the mother lode of California.

El Dorado County—

The Folsom *Telegraph* of Oct. 20th, says: Hall, the proprietor of the Planters Hotel, at Shingle Springs, is now engaged in erecting a 10-stamp mill on the old Bassett claim, on Webber Hill, near Placerville, for the purpose of working cement. The claim is owned by Hall & Stewart.

Fresno County—

The Millerton correspondent of the *Viealia Delta* writes, Oct. 13th: The river miners are all ready to commence taking out dust on the San Joaquin with the first rise, and the diggings are promising well. The copper excitement still runs high, and new discoveries are continually reported.

The steamer *Cornelia* brought down on the 19th inst., 67 pigs (10,983 pounds) of copper from the Buchanan claim, Chowchilla, and 209 sacks of matt (29,718 pounds).

Kern County—

From the *Havilah Courier* Oct. 20th: We learn that the Alpine Gold and Silver Mining Company's 20-stamp mill, commenced opera-

tions on Monday, the 15th inst. This company have expended forty or fifty thousand dollars in the construction of their machinery and the opening of their mines, and now commences crushing rock under most favorable auspices. They have thirty or forty excellent lodes, ten of which are now thoroughly opened and developed.

The new 20-stamp mill of the Joe Walker mine was "inaugurated and christened" on the 17th inst. A general invitation to the citizens of Havilah was given by the owners, and nearly one hundred were present. A sumptuous refreshment table was prepared, and toasts in abundance were drunk to the success of the company.

We have seen a gentleman, well known to us, from Greenhorn Mountain, who has given us a glowing account of the mines of that locality. Among the valuable mines enumerated are the leads—Golden Star, Clipper, Excelsior, Ridge, Peacock, Burr Oak, etc., etc., owned by Messrs. John and James Lillie, formerly of this place. They have sunk down on four of their leads, from twenty to forty feet, and find that they increase in richness and size the deeper they go.

Nevada County—

From the *Gazette* of Oct. 22d: The shaft of Cring & Co., on Oustomah Hill, is about 90 feet deep, from which tunnels have been run south, east and north, about one hundred and fifty feet each way. As yet, no very rich gravel has been struck, but as far as their tunnels have been run, in either direction from the shaft, it prospects sufficiently well to warrant good wages.... The Banner mill will, we understand, be ready to start up again to-day. The Verney pans have been changed for the waltzing or planetary pan.

Same of 23d: The most extensive hydraulic mining in this county is carried on by the American Company, on Manzanita Hill, near North San Juen, and the machinery and contrivances for saving the gold are perhaps the most perfect. The bank or face of the diggings, in some places, is a hundred and eighty feet in height, and the bulk of the gravel is washed down and sluiced off by the hydraulic, and a portion, being cement, is crushed in an eight-stamp mill. The mill has been in operation only a few weeks, and yields from \$1,300 to \$3,000 for every two weeks' run. The drain tunnel was run through solid rock a distance of seventeen hundred feet. Sluices are placed through the entire length. These are cleaned up every two or three weeks, the gold being found the entire length, and the average yield is about \$10,000 for each clean-up. The Middle Yuha Canal Company own one-fourth of these diggings, the other three-fourths being owned by Spooner, Swan, Brown, Crall and Carmack.

The hoisting machinery lately removed from Willow Valley and erected on the Cunningham ledge, was started up a few days ago, and an incline shaft is now being sunk on the ledge. This will be carried to the depth of two hundred feet before starting drifts.... A ton and a half of pulp worked at Stiles' mill by the screw grinder and amalgamator, yielded \$75. The ore was from the Banner mine.

Same of 24th: The Star Company, in Washington township, is pushing ahead operations quite energetically and with favorable prospects. The yield of the last crushing, cleaned up a week or more ago, exceeded the expectations of the owners, and they are now working three shifts on the lower tunnel, and from unmistakable indications must be very close to the ledge.... We were shown yesterday a fine specimen from the Big Slide ledge, containing a mass of free gold, white, perhaps, fifty dollars, and fine-looking sulphurets.... James Ballard and others have lately run a tunnel to drain the Eclipse ledge at a considerable depth, and are now taking out rock from a shaft. We are informed that they have a ledge three feet in width, and that the rock is very rich in free gold.... We learn that a rich strike was recently made in the incline now being sunk on the Pennsylvania mine. The ledge is some twenty inches in width, and the rock very rich. The incline is now down about 180 feet.

From the *National* of October 20th: Bloomfield, about a mile from Nevada, is looking up wonderfully of late, owing to the unusual energy exhibited by the miners in opening up their gravel claims and getting them ready for winter work.... The Commercial mine is located near Eureka, on Poor Man's Creek. The ledge is now about three feet wide, and prospects well. So confident are the company of the richness of their ledge, that they are going to erect a 10-stamp mill, the timbers for which are now being got out.

Same of 22d says: Last Friday they discovered a rich streak in the Ophir, out of which about \$4,000 was taken in a short time.

From the *Union* of the 18th: On the "What Cheer," owned by Frank Carnana and Jamee Fowler, they have sunk a shaft forty feet, at which depth the ledge was struck, showing a thickness of a foot. The rock exhibited to us showed large quantities of free

gold and very rich sulphurets.... Two boxes of magnificent quartz specimens were yesterday taken from the New York Hill mine.

The *Transcript* says: From the 1st day of January, 1866, to the 8th day of October, 1866, 10,351 mines were recorded in the mining locations in the Recorder's office. The claims located average about one hundred feet each, making a total of 1,035,800 feet located in less than ten months.

The *Transcript* says: During the present season the miners on Rocky Bar, near Washington, have taken out large quantities of gold, and a large number of new gravel claims along the line of the channel have been located. We are informed that the entire channel from Washington to Canon Creek has been taken up, and several claims have been located below town. This channel is supposed to be the old bed of the Yuha river. It runs parallel with the river, and is about thirty feet below the present bed of the stream. Its course is straight, and it often crosses under the present channel and forms here, where rich deposits are found. Its width is from fifty to seventy-five feet, with bedrock of slate. This was undoubtedly at one time the bed of the Yuha, and it has been hurried by the filling up of the channel or from slides in the mountains. We were shown yesterday a handful of specimen, weighing from two and a-half to ten dollars apiece, which were taken from the channel at Rocky Bar. The gold is all coarse. This old channel will no doubt be opened all along the river, next season, and many fortunes will doubtless be taken out of it.

EXCELSIOR.—From the *Meadow Lake Sun* of Oct. 18th: The Cooper Company have sunk a shaft 35 feet in depth, and are getting out fine ore.... Returns from ten tons of third class ore from the Enterprise Co.'s mine, worked at Grass Valley, was \$280, or \$28 per ton. The ore was first roasted, and afterwards treated with superheated steam.... The Dead Broke Company, near the Enterprise, have a shaft down on their ledge forty-four feet. The lode at that depth is about five feet wide, and between the walls is filled with rich sulphurets.

From the *National*, Oct. 17th: From a chemical analysis by Prof. Price of San Francisco, the ore from the Young America mine is found to contain about 60 per cent. of cobalt and nickel and about 40 per cent. of other metals. According to the experiments made, the ore will yield, per ton, \$10 in gold, \$16 in silver, \$12 in arsenic, and about \$40 in cobalt and nickel. Prof. Price has offered, as agent of a Swansea Company, to advance \$40 per ton on all shipments.

Placer County—

From the *Stars and Stripes* Oct. 24th: At a depth of eighteen feet, the Martins Company, on the Rock Creek ledge, have developed a vein of extraordinary rich quartz eighteen inches in width, and showing free gold throughout.... The Congressional Reconstruction claim, owned by the same company who own the Civil Rights, have found some very rich quartz recently. They are now down some sixty feet on the vein, at which depth it is twenty inches wide and well defined.

From the *Placer Herald* of the 20th: The Julian ledge, located on Jenny Lind Flat, and owned by C. H. Schnabel, has recently been yielding remarkably well—from \$8 to \$10 per ton. Mr. S. is now attaching to his mill one of "Hawkins Grinders" for the purpose of saving sulphurets. He will have it in full operation next week. Mr. Schnabel has now reached a depth of 104 feet on his mine.

Plumas County—

From the *National*, Oct. 20th: Billy McKinnie, Dave Pearson and Louis Penfield, three of the oldest pioneers of Plumas, have found a new range of diggings in the Long Valley country, on Middle Feather, with coarse gold on the bed rock, and fine gold in the gravel.... Joh Richards and Ohas. White have bed rock in sight now, with a dollar to the pan, shoveled out of three feet of water.... Dick Marken & Co., on Saturday last, took out eight ounces, which is about an average day's work.

The Marysville *Appeal* of Oct. 23d says: We notice a large lot of heavy machinery going forward over the Oroville railroad to the Indian Valley Mining Company, Plumas county. On Sunday a couple of reels, weighing between four and five thousand pounds, went up to Oroville.

Sacramento County—

From the *Folsom Telegraph* of Oct. 20th: Several new companies have commenced work in the cement claims opposite this town, within the past week, with flattering evidences of success. The richest cement lies far below the low water line of the American river, and is believed to extend far into the basin of the high hills along the river, and for the distance of about two miles in length.

A number of sales of interests in the cement claims in Webber Hill, in the Western Tunnel and Spanish Companies, have taken place in town during the past week. The prices paid

have varied from one to two handfuls of twenties.

On the Jersey Blue claim the new mill is now in full and successful operation. A ditch four miles in length has been dug to bring a sufficient supply of water. There are two incline shafts on the ledge within two hundred feet of each other, each about one hundred and ninety feet in depth, and connected together at the bottom. The pay ledges in each incline is rapidly increasing in width, and now measures over eighteen inches. A thousand tons of pay rock is now in sight in the shafts, with four hundred tons of selected rock on the surface from which the mill is now crushing.

Shasta County—

From the *Courier*, Oct. 20th: After crushing twenty-five tons of rock from the Harrison lode, the Mammoth Company cleaned up \$669.58—or a little over \$26.50 per ton.... The Tornado Company made a second clean up last week, and realized \$250 for a run of two weeks. The gravel in this claim has become so hard that the owners have decided to drift and blast the bank down, instead of using hydraulic pipes, as they at first intended.... The workmen in the Big Central shaft, at South Fork, have tapped a vein of water, which filled the shaft to the depth of twenty feet in a short time. Two days' constant hailing failed to lower the water, and Peck has decided to run a tunnel from the side hill, in order to tap the shaft and give the water vent.... George McKean has just completed a furnace for roasting rock on Flet Creek. He has a rich ledge on that stream, and thinks he can reduce it to better advantage in the arena which he has lately erected.

Sierra County—

From the *Messenger* of October 20th: Preparations are being made to systematically open and develop the Page ledge, in Sailor Ravine, by a Grass Valley company, who have taken it in hand.... The lower adit of the Keystone is being rapidly driven ahead, the rock being soft and easily worked.... The Primrose cleaned up after a run of thirty days with one battery, crushing one hundred and twenty tons, the sum of \$3,600, making a yield of thirty dollars per ton.

On the eastern slope of the dividing ridge between the Yuha and Wolf Creek, a ledge was lately discovered by Mr. Wilson, and named the Alexander Von Humboldt. We were shown rich specimens of the croppings (spangled with gold) by Messrs. Lockwood and Clow, of Camptonville, who have been over to locate the claims, and came back through Downville to have them recorded. Extensions have been taken up for two miles. The ledge is about six feet wide.

Tulahoma County—

The *Citizen* of October 20th says: We were shown, one day this week, a piece of pure gold weighing two ounces and a half, which was taken from the Daly claim. This claim continues to pay handsomely.

From the *Sonora Herald*: The owners of the Rawhide claim are about to extend the facilities for its work. They are going to take out the five Wheeler pens in use, and substitute twenty. They are on a vein twelve feet wide, and down about two hundred feet. The mill will be in running order in about a month.

A specimen of retorted gold amalgam, weighing 175 ounces, the yield of two weeks' work by the Golden Rule Quartz mine, in Tulahoma county, was brought to our office yesterday. The mill crushes fifteen tons of rock daily, and the 175 ounces were obtained from about 165 tons.—*Alta*.

NEVADA.

Washoe—

From the *Enterprise*: The Daney mill has been leased by J. C. Caldwell, and will be run on ore from the Yellow Jacket mine. It is a 15 stamp mill run by steam power, and is considered a first-class mill of its size.... The Hale and Norcross mine gives the following monthly statement: During the month of September 3,130½ tons of ore were reduced, yielding \$150,719.49, which is 65 per cent. of the assay value.

Reese River—

From the *Reveille*, Oct. 12th: We saw today at the assay office the result of the first reduction of ore from the White Pine district. One ton of ore from the Enterprise ledge, worked at the Keystone mill, produced a bar of bullion of the value of \$111.52.... Specimens of the finest quality of ore, almost pure silver, obtained from the Silver Champion in the Philadelphia district, are regarded as marvels. One piece weighing fourteen pounds yielded an average assay of \$9.20 per pound; another chunk of thirty-one pounds, gave an average of \$4.84 per pound; while a third and small piece of 3½ ounces, is pure native chloride, without the least perceptible admixture of quartz—nothing in fact but silver and chlorine. Some 4,300 pounds of the ore have been brought in and are now being reduced at the Keystone mill.... Dr. Blatchly will spend the winter in New York, giving expositions of the

mineral resources of Nevada. He will carry with him a large and complete cabinet, containing specimens from every district.

From same of 13th: A good road is now being constructed between Austin and the southeastern portion of the State, where lie the rich mineral deposits of Danville, Hot Creek, and the wonderful Reveille districts. There is every probability that before the lapse of many months mills will be erected in all of these districts, and the transportation and travel thence will be of considerable importance. In Danville district, the prospect is very flattering. Six tons of ore from the Vanderbilt is now on the way to the Keystone mill.

Same of 15th: Capt. Pogo of the Keystone mill, has reduced the charges for reduction. The result has been that a large class of low grade ores, heretofore excluded, are brought to the mill, which is in consequence constantly running at profitable rates. Two additional reverberatory furnaces are being erected, which will be finished this week. On Saturday we were shown a batch of the ores from the Danville district, with certificates of their assay by J. R. Murphy. The Pontiacus No. 1, yielded \$73.16 and No. 2, from the case wall, \$180.64; Silveropolis, \$857.70; Vanderbilt, No. 1, \$884.39, and No. 2, \$570.01. The Pontiacus is fifteen feet wide, the Silveropolis is two and a half feet, and the Vanderbilt four feet wide.

From same of 17th: The ledges of the Chase & Dell Company, in Hot Creek district are the Potomac, the Richmond, and the Grand Marvel. Each location is 1,200 feet in length. The croppings are marvelously rich. A piece from the Potomac was assayed after removing all the visible horn and native silver; and the assay proved the rock worth \$1,521.38 per ton. Such productions are staggering to the belief, particularly when found in such great masses, in so many veins, and extending over so great an extent of country, yet so often are these results repeated, and from many tons which have been brought to the mills of this city for reduction, and producing from \$300 to \$800 per ton, one is forced to the conclusion, that in the vast, almost unexplored country to the southeast, are richer silver-bearing veins than ever before made known, even exceeding our fabulously rich Toiyabe. These ledges vary in width from four to twelve feet. The Potomac crops out like a great wall, and may be walked upon for a length of twelve hundred feet. The Grand Marvel is near the Potomac, and in many places, its croppings, eight feet in width, stand over six feet in height. It is thought to be an extension of the Silver Glance ledge. The Richmond crosses Rattlesnake Canon, and shows distinctly for the entire location of twelve hundred feet, and an average of eight feet in width. During last week 4,300 pounds of ore from the Silver Champion ledge in the Philadelphia district, were reduced at the Keystone mill, with the following extraordinary result: 4,300 pounds of ore yielded two bars of bullion 850 fine, and valued at \$1,541.43, being an average of \$716 per ton. Six bars of bullion, valued at \$5,000, were brought in yesterday from Col. Buel's mill in the Philadelphia district. It was the first lot melted in the district.

Same of 19th: Col. Robbins and Ed. Charbonno, left town to-day for Hot Creek, where they go to work the Indian Hunter and Mountain Eagle ledges belonging to their company. A ton of ore from the Northumberland, worked at the Keystone mill, yielded \$186.14; and four tons from the Lady Cummings, at the rate of \$130.13. One ton of ore from the Taylor & Pussmore, Cortez district, yielded \$263.50; and five and a half tons, from the Russell mine, belonging to D. T. Elmore, gave a bar of bullion valued at \$850, which is at the rate of \$145 45 per ton.

Humboldt. From the Register of Oct. 13th: In the Rochester mine, the workmen passed through a fine clay seam eight inches through, and were confident of having the ledge right at hand—as undoubtedly it was—but the water rushed in upon them in such a volume as to drive them from the work. They had sunk a shaft some 200 feet deep, and were drifting from the bottom to cross the ledge. This allowed no drainage, and they had nothing for it but to get out of the work. The tunnel filled, and the water rose 60 feet in the large double shaft in two hours. At last accounts it stood 75 feet in the shaft, and still slowly rising. This retards operations in the mine for the present, but yet is one of the best indications ever struck on the Montana ledge. The large clay seam is never found at that depth, except immediately against a ledge, and the living water indicates such a break in the country rock as is necessary to a true fissure vein. This flow of water will be a great advantage to the company, enabling it to erect its reduction machinery immediately at the mine. Some delay will occur to procure and erect a small engine to pump out the water.

J. S. Phillips, lately arrived, is now on the ground, with abundant means to prosecute work on the Napoleon series.

Pahranaagat.

A letter from Silver Cañon from Hon. Thomas Lane to the Gold Hill News says: A party of nine men leave here to-morrow to hunt for the famous Breylogle ledge, supposed to be in the vicinity of Death Valley. This makes the fifth expedition that has fitted out for the same purpose within the last three years. It is said to assay \$4,500 to the ton in gold; very little silver.

Raymond's five-stamp mill at Hico Springs is progressing finely, and will start in about 30 days. James M. Day, formerly of Gold Hill, is Superintendent. Business here is nearly at a stand; all waiting for the Pioneer Mill to start.

A letter to the *Fedette*, from the same place under the same date (Oct. 1st), says: Raymond has a ten-stamp mill at Call's Landing, which, with two others also there, will be in operation as soon as they can be transported to Pahranaagat and put up. There are now from 800 to 1,000 tons of ore out awaiting the arrival of the above named mills. Assays made from samples of large quantities of ore show it to be worth in some instances \$1,787 and \$1,554 and other great rates per ton. There are five companies from New York and one from San Francisco at work there, and everything appears bright for a rich return in the spring.

IDAHO.

From the *World*, Oct. 6th: The California Mining Company, lately organized, will soon commence active operations, and, we learn, with prospects of rich success. Their claims front on Moore's creek, about a half mile above town. East Hill tunnel is still progressing rapidly. It has now perforated the hill a distance of two hundred and fifty feet, which prospects well all along. We have run through the false bed-rock a distance of about two hundred feet, and are now meeting with rich views of gravel. Between these gravel views we find a blue cement from one pound of which we obtained nearly twenty cents. At Pioneer, a new water ditch is being constructed to the Toll-gate diggings, from Elk creek, by Messrs. Wilson and Watterman. The diggings prospect very richly. The miners about Pioneer are sinking for the lower bed rock, and rich strikes have been made. Very good pay has also been struck on Muddy. In Alturas county, very rich ore is being taken from the Ida Elmore. The mill will at once resume operations. Mr. Marx has made arrangements to have a good mill put up at the Boonaparte Mill Company ledge this fall. The mine yields rich rock. The Pittsburg Company, the Harris Company, and the Farnham Company, will each start their respective mills in operation next Monday, under cheering auspices. Times in the Yuba district are also rapidly improving. Claims pay well and ledges yield richly.

From the *Avant*, Oct. 13th: The five-stamp mill, of the Messrs. Black, in course of construction in Flint district, is expected to be ready to crush rock in three weeks. The Oro Fino and Morning Star Mining Company has bonded its interests in the Oro Fino and Morning Star mines to J. M. More for \$200,000, the time to expire June 1st, 1867. Mr. More is going East with full expectations of disposing of the property and paying all the indebtedness hanging over it, or raise the means to redeem and work it on his own account. In the vicinity of the Poorman a ledge was struck last week by George Vass and others, which tests high in silver and gold. Very fine gold is visible in considerable of the rock. The ore resembles that of the Empire. A great many men are sinking shafts and running cuts and tunnels on the south and west side of War Eagle. We noticed, on Thursday, a party of men driving a tunnel into War Eagle from near the head of Webfoot gulch. A party of miners are working night and day in a prospecting tunnel penetrating the mountain on the south side of Lung gulch, about one mile above Silver.

At Rocky Bar, Alturas county, Waddingham's mill will be running again in two weeks. The Idaho Company also purpose to go to work again. The old Cartee Company's mill will be set to crushing rock soon. Mr. Beeson also intends to start their mill immediately. The N. Y. & I. S. M. Co.'s mill is to be sold on the 15th inst., at sheriff's sale. The liens on it are about \$12,000. From Yuba we learn that DeFrees & Co. and M. C. Brown are getting their machinery ready as rapidly as possible.

W. F. Bryant, a practical assayer, who has spent the summer in Idaho, and examined carefully each district, says that for wood, water, and general facilities for the reduction of ores, Yuba stands ahead.

A rumor that the Wind River prospectors had been attacked by Indians, and eighty killed, has proved without foundation. At last accounts the parties of Patterson, Jeff. Standiffer and Capt. Bledsoe, about 700 strong in all, had united, and were making fair progress towards the head waters of the Big Horn.

MONTANA.

From the *Post*, Oct. 6th: Wessel & Wilkes' mill in New York gulch, cleaned up from a five days' run on twenty-four tons of ore from the Star of the West, \$1,400. Some Californians, who are familiarly known as the Harris boys, have been engaged in cutting a tunnel through the side of Bald Mountain. On the 28th ult., after having gone about seventy feet through gneiss, they struck a bed of gravel which appears to have been the bottom of some stream that may have flowed ages ago. One nugget, worth thirty-eight dollars, another valued at eleven dollars and several of less weight were found. Of course the news spread like a prairie fire, and within a brief time claims were staked in every possible direction. The place where it was struck seems to be a continuation of Alder creek and it begins where the old diggings ceased. On Oct. 2d, fifty-two wagons, in charge of Joseph Richards, arrived in Summit City with two quartz mills and machinery for Frank Christnot. They started from Nebraska City on June 15th. The new 20-stamp mill of the Excelsior Mining Company was started on the 5th Oct. The machinery worked to the entire satisfaction of all. Several ladies were present.

Letter from Helena: The miners in this gulch are, at least in the lower part of it, hard at work and taking out good pay, the abundance of water caused by the late rain giving their operations a new impetus. The quartz mills in our suburbs are working good ore with good results, but the gold is not fine enough to justify its passing at \$18 per ounce. Gaston & Simpson's mill, at New York gulch, is expected to make a big clean up within a day or two.

Confederate gulch is plying out for this year on account of scarcity of water, and numbers are leaving that locality on that account.

From Elk and Bear gulches, people are leaving en masse, on account of dull times and fear of winter.

"Red Rock City" is the name of a new mining town which has sprung up within the past few weeks. It is situated near the head of Highland gulch.

Letter from Pipestone: The latest stampede is to "Homestead gulch," a branch of the Big Pipestone creek. It is some seven miles in length, and has a good sluice head of water. The depth to the bed-rock averages about five feet. Prospects are obtained from the grass-roots down, varying from a half cent near the surface, to five cents on the bed-rock. An immense lode has been lately discovered near this place which goes ahead of anything yet discovered, of which we have heard. It is over two hundred feet in width, and has been opened for a distance of five miles. The wall rock has been found on both sides of this lode. The lode itself looks well, having hundreds of cords of rock on the surface. The quartz mill of McKinstry & Co., is making some good runs from the Clipper lode.

Bannack letter: Mr. Esler is sinking on the Legal Tender lode, and is down over one hundred feet. The ore is a galena, and the average assay in silver is \$500 to the ton. Mr. Esler has a contract with the St. Louis Montana Mining Company to smelt 200 tons of the ore, which is now being worked at the rate of fifteen tons per day. The ore is all ready, and over 100 tons at the furnace. The shaft on the Stapleton lode is now down thirty feet, and the vein five feet in width. There will be a great mining camp on Salmon river. The diggings are on Napie's creek. Smith & Greater and Captain Wall are doing well. They took out over \$1,300 last week in Dry gulch, a half mile west of Bannack, and their ground is improving. Prof. Eaton is about ready to start his furnace. Clark & Kirby have their mill inclosed, and are driving business before them.

From the Helena *Radiator*, Oct. 6th: The large ditch, on which two hundred men have been employed for the last four months, will be completed in one week from this time. It is calculated to carry 1,500 inches of water.

Wagon after wagon departs from our midst daily, loaded with passengers for the Eastern States, via the Missouri river. We expect a large number of these departing ones, long ere this time next year, will have changed their mind relative to the States being the best place for the working man.

COLORADO.

From the *Journal*, Oct. 2d: D. W. Stevens is going to fit up and run the Holbrook mill. Ed. Moores is now running it for the Smith & Parmelee Company. At first he crushed from a lode he leased, using five or six cords a week, and taking out \$900. It is an 8-stamp water mill. The wheel is to be housed in, and a large stove put in, so that it can be run during the cold weather. N. F. Spicer, agent of the Red Mountain Broadway Mining Association, came in Tuesday evening with about 1,000 pounds of good looking ore, one piece of solid iron and copper pyrites weighing 142 pounds. Mr. Spicer is fully satisfied that the most extravagant expectations from the Red Mountain mines will be fully realized in the

end. He is going to Chicago the coming winter, and anticipates no trouble whatever in getting capital to build a Keith mill. Mr. Fitzpatrick shipped this morning 118 ounces of gold, taken from 11 cords of second-class ore.

From the *Register*: John Shumer called yesterday with a sack filled with gold, weight 96 ounces, taken from seven cords of surface quartz, Adeline Lode, Central Mining District. The Adeline is presumed to be the same vein as that known as the Corydon mine. Messrs. Shumer and Hines are the owners of the discovery claim and No. 5 east, located and recorded early in '59. They are now developing No. 5, have a shaft 45 feet deep and a crevice of pay-rock ranging from two and a half to three feet in width. The ore can be extracted and laid on the surface for twenty dollars per cord.

The *Journal*, commenting upon the above, says: The good results of a depression of sales of mining property in the East are just now becoming apparent. For three years past property like that mentioned by the *Register* has laid unworked, merely because its owners were looking to "a sale in the East" rather than to the working of their property for a fortune.

ARIZONA.

The *Alta* copies a private letter from Prescott, Sept. 25th, from which we clip this item: The mill known as the Vickroy Mill, situated in Turkey Creek District, is being pushed forward by Mr. Coffin. He has a large number of men at work, and is getting along finely, and will be ready to run in about two months. Everything looks prosperous here; wages high and men scarce. The gold quartz mills that are running are doing well.

CEMENT MINING—IMPORTANT SUGGESTIONS.

A correspondent of the *Alta* sends to that paper the following suggestions with regard to cement mining, which it may be well for our miners to take into consideration:

How to mine blue cement gravel is a question that may bring profit from discussion. No one can look at the great difficulty of picking among cemented boulders of quartz, without exclaiming: "That cannot be the best way." When we find a material easier than quartz, alongside, we prefer sinking our incline or running our drift on it, rather than in the quartz. The slate which forms the bedrock of the blue cement gravel is much easier to cut by an undermining, and we suggest its preference.

A very simple machine is now extensively used in England for cutting coal in the vein. It goes by hand. But at the Cambria Iron Works, Johnstown, Pennsylvania, the coal is mined by such machinery, worked by compressed air.

At most of the cement gold mines, there is great fall of ditch water to compress the air, and this system can be readily introduced.

The ordinary stamps appear also inappropriate to the milling of boulder cement. What is wanted is not to crush the boulders, but to get rid of them. It is the cement we aim to detach from its attachment. It seems as if this could be better done by some such skinning movement as the revolving harrow or the rocking cradle.

Now that it is found that the hydraulic gravel of our placers exists under the entire length of adjacent mountains, it becomes important to devise the best method of working this interesting form of gold mines, for this new source of auriferous gravel seems about to rival quartz mining in its production.

COAL BEDS ON SNAKE RIVER.—A correspondent writing to the *Oregonian* at Farewell Bend, says: "I visited the coal bank of Messrs. Packwood & Co., at a point three miles south of this place, and was much surprised to find so good a vein of coal as they have there. The croppings were originally found near the water's edge, and are discernible for a distance of about one half mile above and below the tunnel.

"The enterprising proprietors have run a tunnel a distance of 260 feet into the mountain, and timbered it with eight-inch square timbers four and a half by seven feet, and have erected a powerful pump, of the Hansbrow patent, which will enable them to keep their works dry. The thickness of the veins of coal, together with the interlying strata of clay, is about fifteen feet from hanging wall to foot wall, the coal veins comprising about eight feet of the distance, and consisting of veins of from one to three feet in thickness. The coal has been pronounced by numerous parties who have tried it as an excellent quality of bituminous coal, suitable for all purposes of blacksmith work, and also excellent for generating steam."

The different varieties of coffee lose in the operation of roasting from fifteen to twenty-five per cent. in weight, and gain from thirty to forty per cent. in bulk.

Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

C. W. K. SMITH, W. B. EWER, A. T. DEWEY.
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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the Mining and Scientific Press in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. O. P. Truesdell will act as our Corresponding Agent and Solicitor, in the Interior of this State, from this date. August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
SAN FRANCISCO, Jan 11th, 1866.

San Francisco:

Saturday Morning, Oct. 27, 1866.

NOTICES TO CORRESPONDENTS.

Owing to the large amount of correspondence received relating to interesting points connected with Mining, Metallurgy, Mechanics, etc., we are compelled, for want of time and space, to reply briefly in the following form to a portion of such queries as are of general interest.

AERIAL NAVIGATION.—We do not feel surprised at the inquiry made by "X," whether the announcement made by a daily contemporary is a hoax? In reply to this, we may state that from inquiries made on this subject we are justified in stating that the parties, consisting of the proprietor of the weekly journal alluded to, together with his associates, are in sober earnest on the subject matter, so much so that it is not improbable that we may in San Francisco, on or about the New Year, have the opportunity of witnessing the first trial. From this information we have obtained, we are disposed to think that the probabilities are favorable to a successful issue to the enterprise; though we do not expect, like the projectors, that one hundred miles per hour (hurricane speed) can ever be generally practicable. If the experimental trip, on a calm day, attains one-tenth of that speed; and if in twelve months thereafter double that rate is attained, we should deem such results as most decided instances of success. The projectors have certainly been fortunate in selecting for their machinist, constructor and superintendent, a gentleman peculiarly well qualified for the purpose, who, we feel certain, that so far as in him lies, will exhaust every available means known to mechanism to render the trial machine perfect. The power employed will be steam, the boilers being of an improved construction. Should some of the attempts be successful, to which allusion was made in our last number, for attaining power through the medium of electricity, it appears to us that aerial navigation is a field to which it, perhaps, could be most successfully applied. The full merits of the enterprise can only be determined by actual experiment.

A LEARNER—NEVADA.—Wherever the circumstances connected with a mineral vein are such as to prevent the possibility, or on economical grounds render it inexpedient to open out the same by any other means than by shafts, it will in all extensive works be found most advisable to effect this end by perpendicular shafts, by which means both hoisting, and especially pumping arrangements, are greatly facilitated. The greater the depth penetrated, the more decided do the advantages of this method become apparent. On veins having a low inclination, or less than forty-five degrees, it will generally be found advantageous to sink at least two shafts on a claim extending continuously for twelve to fifteen hundred feet. Such perpendicular shafts ought to usually intersect the vein at about five hundred feet below the surface at the angle named; when the angle is as high as from 60° to 70°, it will often be found most economical to make the intersection at a depth of one thousand to twelve hundred feet. Sinking shafts on the incline can only be judicious in cases where the angle is very low, or as is frequently the case, where it may be desirable that a test should be made of the general character of the vein prior to deciding upon the expediency, or otherwise of ultimately making a larger outlay in permanent construction.

PETROLIA.—We are glad to perceive that the efforts being made by the Buena Vista Petroleum company are likely to result in our obtaining a home supply of lubricating and illuminating fluids. A short time ago we expressed our regret that this domestic source of wealth had been, as we conceive, somewhat too hastily neglected or laid aside; for it is a business that will some day become important.

A splendid gold watch and chain were presented to Mr. Joseph G. Perkins, foreman of the Pacific Iron Works, a few days since, by the employees of that establishment. Mr. P. goes on a visit to the Atlantic States.

THE NEW GOLD WORKING PROCESS IN MARIPOSA.

Under the above head a correspondent in another column of this present issue, furnishes some particulars with regard to the modifications lately introduced into the milling operations on the Pine Tree vein, on the Fremont Estate in Mariposa county. When the results of the experiments recently undertaken there were first made known, we were inclined to receive the reports, as our correspondent remarks, "with many grains of allowance." The imperfect manner in which the process was explained, taken in connection with the past history of that property, naturally led us to such a conclusion. In subsequent inquiries, however, resulting in the united testimony of a large number of witnesses and persons having knowledge of the late operations at that mine, all tending to confirm the truthfulness of these reports, together with a further and full description of the new process employed, and the particulars of a series of elaborate experiments made in New York with a portion of the same machinery, have led us to accept the reports in question, with at least the usual degree of credence given to ordinarily well authenticated mining reports. That the increased yield claimed is actually obtained, we think there can be no further doubt; but in the absence of carefully conducted comparative experiments, we are not altogether certain that a portion of the increase may not be due to a better quality of rock than that heretofore obtained. An increase from ten to thirty dollars per ton, which is about the figures claimed, is a very large percentage of increase to be derived from improved machinery alone.

We are quite ready, however, to admit the extreme probability of a very large improvement, from the fact that the very ends are accomplished in this process, which we have for years held to be essential to the proper working of auriferous rock, viz., a reduction to an impalpable powder and careful amalgamation in close vessels, from which there can be no escape of water until the amalgamation and separation is complete. If these ends are accomplished to the extent described (and we have no reason to doubt the representation), it is more than has yet been practically accomplished by any other class of machinery ever put up for working quartz rock.

By this process the quartz is first subjected to a crushing operation by being passed between Cornish rollers, or through Blake's or any other similar crushers; it is then placed in one of Landgren's pulverizers, which consists simply of an iron cylinder, similar in its working to the Freiberg barrel, and from thence passes through Ryerson's superheated steam apparatus, all substantially as described by our correspondent. The great secret of success in the operation, if we are correctly informed, must be in the extreme fineness to which the rock is reduced. By this machine it is claimed that quartz may be so finely pulverized that it is impossible to distinguish by the sense of touch the powdered rock from the finest flour. The principle on which this is accomplished, and which is not at first sight apparent, is the acquirement of an extensive grinding surface, entirely unattainable in any other practical manner. In one of these machines of the ordinary size, the amount of grinding surface is nearly or quite 800 superficial feet, and much of it working under the great pressure due to a superincumbent mass of 3,600 pounds. When the machine is running at its proper speed—about 24 revolutions per minute, containing 2,400 pounds of ounce bullets—every one of the little balls is kept in constant motion. The effect of this action is apparent in the result produced. A charge of 1,200 pounds of rock, just sufficient in amount to fill the interstices between the bullets, previously reduced to the average size of wheat grains in the crusher, by one hour's action of this machine is made as fine as flour; in two or three hours it becomes a flocculent mass, which, on exposure to the atmosphere, will float away like the most impalpable dust; at least so we are informed by one who has

experimented long and patiently with the machine in New York. The harder and more brittle the rock, the quicker and finer it is pulverized. Quartz is more readily pulverized to this degree of fineness than charcoal or any other substance of a spongy nature. The wear upon one of these machines, when properly worked, contrary to what one would suppose, is very light—merely nominal. The balls will last for years, and can be procured very cheaply, at a price but little beyond the cost of ordinary castings. The barrel will last four or five times as long as when used in the Freiberg process. By a careful perusal of this article, and the communication of our correspondent upon the same matter, it will be perceived that the process employed to bring about the above results is a very different one from that which has hitherto been known as the "Ryerson process," which we at first supposed it to be. Even the Ryerson amalgamator itself is operated differently from the manner employed by the inventor in his various trials for two or three years past.

It is manifest to every one that in such extraordinary fine grinding as is obtained by Landgren's pulverizer, every particle of gold must be liberated from the quartz; and all that is then required is a speedy and sure mode of securing it. We have no doubt but that the Ryerson amalgamator and separator, as operated, will accomplish that end. Pans and other amalgamators may do it equally well, and perhaps at less expense.

So far as hearsay evidence can be relied upon, and so far as evidence can be deduced from theoretical reasoning, our present impression is, that an important advance is about to be made in working auriferous quartz by the introduction of Landgren's pulverizer. The works at the Pine Tree mine are now idle for want of water, but they will soon be in operation again, when we hope to lay before our readers such information as will definitely settle the question of the value of this machine for working quartz. A most unusual degree of interest seems to have been elicited in this matter, and we shall lose no opportunity to place all the facts in relation to it before our readers at the earliest practicable moment.

RICH BOULDER SPECIMENS.—Our attention was recently called to three quartz boulder specimens at the office of Mr. B. W. Mudge, No. 528 Clay street. The smallest, about the size of a hen's egg, we should judge to contain one-half its weight in pure gold. The largest piece was the remnant of a good sized boulder, which yielded 22 ounces of gold by hand-mortar process.

These specimens are from the blue gravel channel in the New Jersey claims, owned by Mr. G. W. Reamer, at Forest Hill, Placer county. As a representative of gravel and cement mining, we understand this mine to be one of the best in the State. It embraces over 2,800 feet of tunnels. Its location is next to the Jenny Lind claims, also notable for extensive and rich gold deposits. The specimens alluded to came from what has been termed the "back channel," which proves to be an extension of the original or front lead. The front deposit is a red gravel, while the rear ground, but recently discovered, turns out the true blue gravel. Mr. Reamer informs us that there will in all probability be eleven cement mills in operation within a circuit of three miles about Forest Hill by the first of January next, against one in operation a year ago. All that are yet running are meeting with good success.

AN ACCIDENT of a somewhat singular character occurred in the claims of the Rocky Bar Company, near Washington, Nevada county, a few days since. The timbers in the tunnel took fire, and burned so furiously that the workmen made their escape with difficulty. After about thirteen hours the fire was subdued by deluging the claims with water.

THE SILK FACTORY of Neumann & Myers is to be at San Jose. Certain parties have given them twenty-five acres of land for the purpose. They will, therefore, be in the immediate neighborhood of Mr. Provost, who grows the material for their fabrics.

A RIVER OF HEAT.

Captain Mullan, in his "Traveler's Guide to Oregon," etc., speaks of a most remarkable meteorological phenomena, which he has observed in his travels through the country between the Rocky Mountains and the Black Hills of Nebraska. He calls it an "atmospheric river of heat." This river of heat, he says, appears to have its origin somewhere to the southwest of the Black Hills in Nebraska, and moves thence in a northwesterly direction, crossing the Platte not far from the old emigrant crossing, now the Platte Bridge, courses along the northeastern slope of the Wind River Mountains, over the principal gold regions of Montana, between the Oro Fino and Selmon river mines of Idaho, and strikes the eastern line of Washington Territory north of Salmon river. At this point it spreads out, fan-shaped, and is lost over the great plains at the headwaters of the Columbia river, which forms the chief part of the western portion of Washington Territory. On either side of the main current are walls of cold air, which are so clearly perceptible that the traveler may always detect them as soon as he enters the chilling atmosphere.

This extraordinary current of heat warms up the entire eastern slope of the Cascade range of mountains north of the Columbia river. The phenomenon is pronounced to be as useful as curious in pointing out a natural course of travel and settlement. Passing, as it does, over a region suitable for a permanent population, it locates upon the map a line of future settlements from Fort Laramie, in a northwesterly direction to the headwaters of the Columbia. By its action the temperature of all the eastern and northeastern portions of Washington Territory and northern Idaho, which consists mainly of an open grazing country, is raised to about the temperature of Philadelphia, although located from seven to eight degrees farther north. Whatever may be the cause of this remarkable phenomenon, the fact doubtless exists, and must for all time enter as an important element in the economical development of that region of country, a territory embracing from thirty to thirty-five thousand square miles. When it is remembered what marvellous results and conclusions have been arrived at, and what important deductions have been made from the study of isothermal laws, which are here so especially and distinctly marked, we may, with much confidence, predict that the day is not far distant when this region will teem with an industrious and thriving population. It is directly in the track of the proposed line of the Northern Continental Railroad, which will soon become almost as much of a necessity as the central road has already become. It is even now, indeed, but a short distance removed from the head of navigation on the Yellowstone river. Any one who will carefully study the geography, climatology and agricultural and mineral resources of this region, cannot fail to be convinced that it will ere long become a most important portion of our Pacific domain.

PROFESSOR MORSE was at Dusseldorf when the news of the successful laying of the Atlantic Cable reached that place on the 28th of July. Some thirty-five of the principal merchants in the city were at the moment celebrating their annual dinner in the hotel where the Professor lodged. The chairman went out and brought him into the room. He was received with three hearty cheers. Each man filled his champagne glass, and stepping forward, touched it to that of the Professor, whose health was drunk standing. He briefly replied in English, and retired amid cheers.

TIN ORE IN MAINE.—A large deposit of tin has been, according to the *U. S. Mining Journal*, discovered in the State of Maine, near the town of Paris. Assays have been made at Yale and Amherst Colleges, said to show a yield of 78 per cent. The character of the ore is crystallized oxyd of tin. A specimen now in the cabinet of Amherst College weighs over five pounds, and is said to be the largest crystal of tin ever found.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, the most important and valuable new and important inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

RECENT INVENTIONS.

NEW PAN.—The Nevada Gazette says that a new grinding and amalgamating pan, invented by H. A. Gaston, late of Austin, Nevada State, was put in operation on the 12th instant, at Stile's quartz mill at that place. In some respects, says the Gazette, it differs from any pans now in use, the grinding machinery somewhat resembling the screw of a propeller, and when operating currents are created which keep the pulp continually in motion, and bringing the coarser particles under the millers. That paper expresses the opinion that it will be found an excellent pan, both for grinding and amalgamating. It will be thoroughly tested at Stile's mill.

PATENT CAR TRUCK.—The Sacramento Union has seen the model of a new car truck, invented by D. W. M. Lower, of that city, and says: "The object of the inventor is to get up a truck which will obviate the well known difficulties attendant upon the ordinary truck in turning curves. The inventor claims an independent wheel which obviates the sliding process of the fixed wheel—a flat surface on the face of the wheel which prevents extra wear of the track—the adjustable arch wheel which prevents extra wear of the truck—the adjustable arch bars which conform to the curve of the track—easy and effectual process of oiling, and boxes which, when worn out, may be replaced without throwing away the wheel. In all these respects the truck appears to work well and to be well adapted to the object aimed at. Lower has been a resident of Sacramento during the past two years, and has been employed the greater portion of that time at the workshops of the Pacific Railroad Company on Sixth street. He has taken the preliminary steps to secure a patent for his new invention. If it stands the test of practical work it must come into general use."

NEW ELEVATOR.—A COLORADO INVENTION.—The Colorado Journal of Oct. 2d, describes as follows a newly invented elevator for use in the mines. While in Denver we saw an elevator so cheap and simple, and yet so effective and convenient, as to excite wonder that it had not long ago been thought out and applied. It is a square bucket hung in a frame, running in a way, guided by little wheels at the sides, and the way bending outward above the mouth of the shaft so that the bucket by means of the wheels empties itself into a spout and resumes its wonted position on the reversal of the motion with as much grace as a gentleman tips a glass or kisses a lady's hand. It is perfection itself, can be put up for little or nothing, and is such a beauty as no working shaft should be without. It is the invention of a miner named George Williams. He made a model perhaps eighteen months ago in the South Park, took it to Denver and bored people with it for months before he could get any notice taken of it. At last Mr. A. J. Williams took a thousand dollar interest in it, and George went on and got out his patent. He immediately went into the coal mines of the East with it, and as soon as it could be introduced the demand became such that he writes out that Colorado and the far West must wait. The miners of the East are intensely chagrined, however, that a Colorado man to teach them how to mine, how to elevate and empty ores. The prospect is that the elevator will be adopted throughout the mines of the world just as quickly as it can be done, and that George Williams will make a handsome fortune out of his invention. As yet he has made no effort to introduce it in Colorado, and A. J. Williams having just gone on East, we suppose George has no agent in the Territory.

PATENTS RECENTLY ISSUED.

ANIMAL TRAP.—David N. Phelps, San Leandro, Cal.: I claim a trap constructed of wire or iron, A, with main spring, B, semi-circle, C, parallel straight arm, D, with bent head, F, E, said arm crossing the semi-circle and forming the hold when sprung, when set held in place by the bent arm, H, and sprung by bait H', substantially as described and for the purposes set forth.

ROTARY VALVE.—Daniel Sexton, San Gabriel, Cal.: I claim the arrangements of the ports, c, e', port, d, valve, B, baving partition, E, stem, C, lever, D, temper-screw, G, ports, e, e', ports, f, f', and cylinder, A, constructed and operating substantially as and for the purpose represented and described.

RIFLE BOX.—Rhesa H. Dunning, North San Juan, Cal.: I claim the rifle box, C, damwall, D, or their equivalents, to be employed for saving gold at any point where there is a divide of waters, substantially as described.

TAPPET FOR STAMPS TO QUARTZ MILLS.—E. P. McCarthy, San Francisco, Cal.: I claim the

use of a rubber tappet, A, steel shod, the steel shoe, B, plate, E, and bolts, F F, combined in the manner and for the purposes set forth.

CANDLESTICK.—Alfred Rix, San Francisco, Cal.: I claim, 1st, The use of the jaws, B, B, one or both movable, or their equivalents, arranged with a space, z, on each side of the candle by which the candle can be adjusted vertically by the thumb and finger. 2d, The trapezoid, n, b, c, d, by which to operate the jaws, all constructed substantially in the manner and for the purposes set forth.

DESULPHURIZING ORE.—John A. Hitchings, Denver City, Colorado: First, I claim the arrangement of the crucible with its dome-covering sectional lid and discharge openings, M P, substantially as and for the purpose described. Second, I claim the combination with the crucible of the water supply tank, K, as and for the purpose described.

PATENTS can be obtained for citizens on this Coast through the Mining and Scientific Press Patent Agency, in one half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars Free.

DEWEY & CO.,
Patent Agents, 505 Clay street, San Francisco.

MINERS' INCOMES AGAIN.—The largest individual income derived from the working result of mining for the year 1865, in California, was that of Mr. James B. Pierce, of San Francisco. It came from the Blue Gravel claims near Smartsville, Yuba county, and amounted to \$102,031. Jules Fricot, a Nevada quartz miner, was assessed \$182,511, but we are recently informed that the larger part of his assessment came from the sale of mining ground.

SUCCESSFUL NAVIGATION OF THE COLORADO. The safe arrival of the steamer Esmeralda at Collville, the head of Colorado river navigation, is announced. This settles the question of the feasibility of the river route to Salt Lake and Pahranaagat. The extraordinarily rich new districts in southeastern Nevada, will probably be furnished with their machinery by this route. Captain Rodgers, master of the boat, declares that at the present stage of water "he could take up a steamer drawing six feet of water."

FIRST SHIPMENT.—A lot of several tons of quartz from the Fox Copper ledge, arrived in this city the past week, and was sold for shipment to Swansea. We understand from Mr. Thorp that the work of development at this mine is going on steadily, though slow, with good indications of ultimate success.

THE DEEPEST COAL MINE IN THE WORLD, that of Montwearmouth, England, 1,900 feet from the surface, was visited by some members of the British Association. Four ladies were of the party. The workings extend to a distance of two miles from the shaft. The heat at the bottom is from 80° to 90° F.

PACIFIC HYGIENIC HOME WATER CURE, at Fountain Farm, near Oakland. Chartered and conducted according to the teachings of the Hydropathic College of New York, by the Pacific Hygienic Home Association (Incorporated), B. J. SMITH, M. D., Consulting Physician; R. S. MACRETH, M. D., Attending Physician; W. G. W. HANFORD, Manager; H. ANDREWS, Business Agent. Office, Baths and Lecture Hall No. 627 Sacramento street, between Montgomery and Kearny streets. Free Lectures every Tuesday and Friday evenings. 16v13-1f

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IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

Dell, Cranna & Co.,

511 1-2 and 513 Front street, San Francisco

IMPORTERS OF

COAL OILS AND LAMP STOCK.

21v12-3m3p

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

FIRST PREMIUMS!



FOR PRINTING,

AWARDED AT THE

MECHANICS' INDUSTRIAL EXHIBITION

SAN FRANCISCO, 1865,

—AND AT THE—

State Fair at Sacramento, 1865,

—TO—

DEWEY & CO.,

BOOK AND JOB PRINTERS,

PUBLISHERS OF THE

MINING AND SCIENTIFIC PRESS,

505 Clay street, San Francisco.

REPORT

—OF THE—

COMMITTEE

—ON—

SEWING MACHINES!

California State Fair, 1866:

"TO THE PRESIDENT OF THE STATE AGRICULTURAL SOCIETY: Your Committee on Sewing Machines beg leave to report that we have examined the several Sewing Machines on exhibition, (the Grover and Baker, the Wheeler & Wilson, and the Florence,) and find that

FOR GENERAL FAMILY USE

—THE—

"FLORENCE"

—IS—

"THE BEST."

(Signed) J. N. ANDREWS;
THOMAS C. McHALE,
L. ELKUS.

—If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco Office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.

SAMUEL HILL,

General Agent, 111 Montgomery street, San Francisco.

17v13

GOVERNMENT HOUSE,

Corner of Sansome and Washington sts.,
SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN EVERY direction, every ten minutes.

The rooms of the House are well furnished, large and airy, are let by the month, week or day, and are kept in superb order. There is a Restaurant attached for ladies and families, where persons can board for one-half they are required to pay at hotels.

SANBORN & CO.

For Sale—Cheap.

A GOOD PAYING BUSINESS, TOGETHER WITH THE good will of the party, controlling the entire trade of this city and State. It is suitable to any intelligent business man, and has averaged about \$800 per month. It is now offered low, solely because the proprietor is compelled to leave the city. Address "S. H." Lock Box 602 Post Office, or inquire at S. W. HOWLAND'S, No. 24 California street, San Francisco. 17v13-1m

GEORGE H. POWERS, M. D.,

Gives exclusive attention to

Diseases of the Eye.

No. 626 California street, between Dupont and Kearny.

Dr Powers refers, by permission, to Rev. A. L. Stone, D.D., Ira P. Rankin, Esq., L. B. Benchley, Esq. 17v13-6m

CONNECTICUT

Mutual Life Insurance Co.

The Largest Life Insurance Company in the World.

ASSETS.....\$12,000,000.

THE CONNECTICUT MUTUAL

IS NOW THE LARGEST AND MOST PROMINENT LIFE Insurance Company in the world, and it has

The Largest Number of Members,
The Largest Amount Insured,
The Largest Surplus,
The Largest Business,
The Largest Income.

And as it obtains the LARGEST average rate of interest on its investments, and has had, through its whole history, the SMALLEST average expenses, it therefore affords insurance at LESS COST than any other Company.

The surplus premium (dividend) returned to Policy Holders during the current year is SIXTY PER CENT. of the premiums paid during the year ending 31st of January, 1865.

Insurance can be effected in this Company in all the forms desired, and to meet all the contingencies to which Life Insurance is applicable, among which forms are—

Whole Life Policies, by a continued annual life premium.

Whole Life Policies, by TEN annual premiums.

Endowment Policies, by a continued annual premium.

Endowment Policies, by a limited annual premium, for FIVE, TEN, FIFTEEN or TWENTY years.

Endowment Policies, made payable at any age stipulated.

ALL POLICIES issued by this Company are either non-forfeitable by their terms, or may be converted into those which are so, at the option of the insured.

This Company offers all the advantages of a CASH or NOTE Company. The assured are not required to give a note in part payment of the premium, but may, if preferred, pay the first four premiums in cash, after which their dividends on Annual Premium Life, and Continued Premium Endowment Policies, will, if the past success of the Company is continued, reduce their premiums ONE HALF. When notes are given for Annual Life and Continued Endowment Premiums, no notes will be required after the fourth payment, and the returned surplus—dividends—will be applied as cash to the reduction of the annual premium.

None but Unexceptional Risks Accepted; and only upon ages between Fourteen and Sixty.

DIRECTORS:

JAMES GOODWIN, HENRY C. ROBINSON,
GEORGE S. GILMAN, GUY R. PHELPS,
MARCUS F. HODGES, E. D. TIFFANY,
New York, CHARLES F. THAYER,
N. M. WATERMAN, JOHN C. PALMER, Boston.
E. B. WATKINSON, THOMAS SISSON.

GUY R. PHELPS, President.

Z. PRESTON, Vice-President.

W. S. OLMSTEAD, Secretary.

O. W. POWERS, Actuary.

A. D. SMITH & CO.,

General Agents Pacific Coast.

Office, N. W. corner Montgomery and Sacramento streets, San Francisco. 17v13 p11

Accidental Insurance!

The Accidental Insurance Company OF NEW YORK.

ISSUES POLICIES INSURING AGAINST INJURIES OF all kinds, and death resulting from accident.

In case death does not result from the injury, the insured receives a weekly compensation, as long as he is disabled (not to exceed twenty-six weeks).

ONE YEAR POLICIES.

\$5 will buy Policy for \$1,000, with weekly compensation of \$5.

\$10 will buy Policy for \$2,000, with weekly compensation of \$10.

\$50 will buy Policy for \$10,000, with weekly compensation of \$50.

SHORT TERM POLICIES.

Policies will also be issued for any other amounts within the limits before stated, for periods of one to six months, at rates in lengths of the Annual rate, as follows:

1 month, 2-10.	4 months, 5-10.
2 " 3-10.	5 " 6-10.
3 " 4-10.	6 " 7-10.

[Written for the Mining and Scientific Press.]

From Tuolumne County.

EDITORS PRESS:—I find Tuolumne county very different from what it was in my mining days. Some towns are worn out and lifeless, the people almost dispirited and ready to migrate. Quartz is now their great hope, and it is not without good grounds. I think this the richest quartz county in the State; but the lack of capital is the great drawback. This is beginning to be changed. Capitalists are turning their attention this way, and meeting with good rewards. Since my arrival here I have visited many of the quartz mines and seen some rich specimens and piles of ore. At Chile Hill the

GOLDEN RULE COMPANY

Are pounding away with very good rock, and doing well. They have a good vein, and are working it economically. My next call was at

HESLER'S MILL,

Quartz mountain. Here I found a mill running, but it was on surface rock, as in their shaft the vein had left them, and they were sinking with the intention of drifting for the vein at a greater depth. Their surface rock pays them a small profit, so that they can develop their mine without a heavy expenditure out of pocket. Down the creek from here is

APP'S MILL,

Running on good ore and keeping constantly at work.

But the greatest expectations here now are based upon Whisky Hill, a large portion of which has been purchased by the

TRIO COMPANY.

General Rosecrans, as the superintendent, has already started three exploring shafts and a tunnel, and is pushing work forward rapidly, and I have no doubt the company will be amply rewarded for their expenditures. I have no reliable data upon which to estimate the amount paid for these mines, therefore it will be useless to attempt to give you the figures.

AT RAWHIDE RANCH MINE,

Just across Table Mountain from Jamestown, the mill is at present stopped for extensive alterations. They are putting in six more Wheeler pans, making eight in all. This is the finest mill of the size I have seen in the State, and it seems as if no expense had been spared to make it complete. At the mine they are taking out very rich rock and are going down still deeper. They are about putting up a 40-horse power engine for hoisting purposes. Their new shaft is down about fifty feet, and the prospect is that they will get as good rock here as in the old one.

SONORA

Presents a strong contrast with the towns about it, looking about as well now as I have ever seen it, and giving evidence of its prosperity in the fact that there are very few places marked "To Let." While there I visited the

SONORA FOUNDRY,

Phelps, Cowie & Shepherd, proprietors, and found it quite an extensive establishment, consisting of a foundry and machine shop, and judging from specimens of work in the shop, they are capable of building first class machinery. A. B.

Jamestown, October 16, 1866.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street, SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Tyler's Improved Water Wheel,

Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.

KNOX'S AMALGAMATORS,

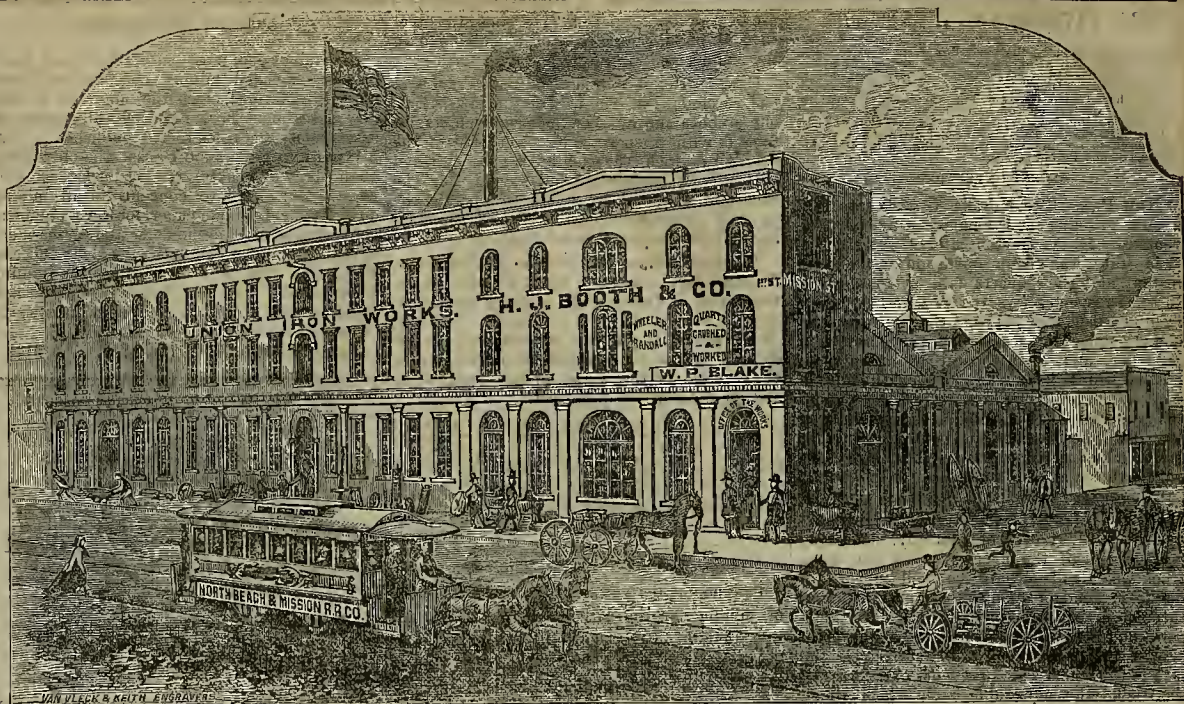
WITH PALMER'S PATENT STEAM CHEST,

Superior for working either Gold or Silver Ores.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-1f

With the last number is an index to the whole volume, most useful and valuable to those who keep files of that paper.—[Shasta Courier.]



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hay Rags, Screw and Drop Presses, Coining Machinery, File Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

ROLLERS.—Locomotive, Flat, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Rectorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH.

GEO. W. FRESCOTT.

IRVING M. SCOTT.

H. J. BOOTH & CO.

24v12

GEORGE T. PRACY, MACHINE WORKS,

Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL

And Quartz Machinery, Printing Presses,

—AND—

MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

Special attention paid to Repairing. 4y-3

T. G. BURNING. J. F. FISHER.

PACIFIC FILE FACTORY,

No. 53 Beale Street,

Between Market and Mission streets, San Francisco.

FILES REBUILT AND WARRANTED AS GOOD AS NEW, or no charge. The only establishment in the State. We also manufacture Reapers and Mower Sections. 5v13-ly

DURNING & FISHER, Prop'rs.

LEWIS COFFEY. J. S. KISDON.

LEWIS COFFEY & RISDON,

Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

GLOBE

Foundry and Machine Shop,

STOCKTON, CAL.

KEEP, BLAKE & CO.,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam

Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons,

House Fronts, Iron Fencing, Balcony Railings, etc.,

at San Francisco prices. Orders solicited

13v13-ly and promptly executed.

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 13v12-3m

F. N. BACON. LINAS STEWART.

BACON & STEWART,

PRACTICAL MACHINISTS,

No. 51 Beale street, San Francisco.

All kinds of Machinery made and Repaired.

Particular attention paid to PRINTING PRESS work.

All jobs entrusted to us will be attended to with promptness and on reasonable terms. The patronage of Printers is respectfully solicited. 13v13-ly

J. O. HANSCOM & CO., 17 PENDERGAST, H. S. SMITH, 17 W. W. HANSCOM.

Aetna Iron Works!

Southeast corner Fremont and Tehama streets, SAN FRANCISCO.

Practical Machinists and Iron Founders,

MANUFACTURE

STEAM ENGINES,

QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS,

Dunbar's Improved Self-Adjusting

PISTON PACKING,

Now so extensively used in the East and in this State, Re-

quires no springs or screws; is always steam tight; without

excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,

The best of the kind now in use in this State or anywhere else

Wheeler & Randall's New Grinder and

Amalgamator,

Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,

Giving greater power, at lower cost, than any wheel in use

Send for one of our circulars, giving full tables.

All Wheels warranted to give the power as set forth, or

the money will be refunded.

Sole makers for this coast of the "Pendergast

White Iron Stamp Shoes, and Dies.

None genuine unless obtained from us. Every one war-

ranted.

Patented Machinery of all kinds will be furnished by us

at market prices. Particular attention given to drawings

and specifications of machinery, which will be made to

order. The patronage of the public is respectfully solicited.

13v12

FULTON

Foundry and Iron Works.

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Brodie's

Improved Crusher, Mining Pumps,

Amalgamators, and all kinds

of Machinery.

Nos. 45, 47 and 49 First street, between Market and Mis-

sion street, San Francisco. 3-y

NEPTUNE IRON WORKS,

Corner of Mission and Fremont streets,

SAN FRANCISCO.

MARINE,

Locomotive,

And all kinds of

HIGH PRESSURE

Steam Boilers

MADE

All Boilers guaranteed and

tested by U. S. Boiler In-

spector before sent out of

the Shop, at Shop expense.

All kinds of Sheet Iron and

Water Pipe, Coal Oil

Stills, Wrought Iron

Worms, etc., etc.

Manufactured to Order.

Old Boilers Repaired

D. CAMERON.

6v12-ly

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired

with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old cylinders, manufactured

to order.

Front Street, between N and O streets,

14v11 SACRAMENTO CITY

SAN FRANCISCO

Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,

Manufacturers of

Marine and Stationary Engines!

Quartz Machinery, Saw, Flour and Sugar Mills, Mining

Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—

Wine, Cider, Cotton and Tobacco Presses

of the latest Improved Patterns.

Brodie's Improved Patent WINN BLAST SEPARATOR,

for Dry Crushing; Baux & Gird's Amalgamator and

Separator; Coal Oil Well Boring Machinery

complete, on hand.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and

Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston

Packing, requires no springs or screws; is always steam-

tight; without excessive friction, and never gets slack or

leaky.

MACHINERY, OF ALL DESCRIPTIONS,

Bought, sold, or exchanged. Bolt Cutting and Castings at

the lowest market rates.

6v11-ly

DEVORE, DINSMORE & CO

13v11

JAMES MACKEN,

COPPERSMITH,

No. 226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best

manner. Particular attention paid to Steamboat, Sugar

House and Distillery work.

Repairing promptly and neatly attended to.

13v11

JOHN LOCHHEAD'S

Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT

to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,

PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland

navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San

Francisco for the last fourteen years, and enjoys the repu-

tation of having built ONE HUNDRED AND SEVENTEEN

STEAM ENGINES

Screw Propellers of all kinds, and Steam Boat Machinery

generally, made to order, and warranted to give perfect

satisfaction in every particular. 25v12-3m

BREVITIES.

MOUNT HOOD is smoking.

On the night of October 14th, ice half an inch thick formed in Colfax.

The yield of wine in Amador county will be double that of any former year.

The San Lorenzo paper mill made 15,927 reams of wrapping paper and 253,254 pounds of printing paper the past year.

The amount of wine produced in the foothills of El Dorado, Placer and Sacramento counties, will exceed in quantity that of last season nearly, if not quite, two-thirds.—*Folsom Telegraph*.

The Union Pacific Railroad progresses westward steadily at the rate of a mile and three-quarters a day. Once General Cheeseman, Superintendent of the road, made a wager of \$10,000 that he would lay three miles in a day, and did it.

THOMAS B. LEWIS, Esq., the delegate lately chosen by the citizens of Idaho, is now on his way to Washington City, to lay before the Executive the facts relating to the Indian troubles in the mining districts, which seriously interfere with the progress of that Territory.

The *Sonora Herald*, of October 13th, says: Some parties have discovered a plumbago mine near the city, on the French garden road, and are ready to work on the same. An advance of \$40 per ton has been offered in San Francisco for what is got out. The company contemplates sinking a shaft forty feet deep.

The U. S. Circuit Court Judges disagreed in regard to the question whether the provision of the statute under which gold incomes are converted into their market value in currency, and taxed at the amount in currency, is constitutional. An appeal has been taken to the Supreme Court.

FRZ-GINNON's asphaltum pavement, laid down twenty months ago between the rails on California street, between Montgomery and Kearny, has worn well. Having, however, become smooth, it does not furnish a secure footing for horses, the inclination being at that point considerable. It is therefore to be "picked" up, broken into fragments, and relaid in ridges.

A NEW life-saving apparatus was recently tested near Boston, under the direction of Captain Forbes, of the U. S. Navy. He placed his mortar at Deer Island in position, and at the signal it was discharged, the hollow shell flying across a vessel's amidships, and leaving the line in the rigging. It was quickly secured, and in a few minutes a larger line was drawn in, made fast, and the communication with the shore was secured.

The piano-violin, which is to be exhibited next year at Paris, is in shape like an ordinary piano-forte, with an extra box. The player performs as usual, and no sooner do his fingers touch the keys than the violin is heard in unison with the piano-forte. Inside the box is a violin, and four large bows run across the strings and compel them to sound the notes. The bows move up and down perpendicularly, each in its turn, and sound each note, which is made by the touches of the piano-forte. It is an American invention.

HAYWARD, COLEMAN & CO.,

IMPORTERS AND REFINERS

Illuminating, Lubricating,
PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO—

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand.—
414 Front street, San Francisco.

California Steam Navigation
COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE.
" CHRYSOPELIS.....CAPT. A. FOSTER.
" YORREITE.....CAPT. W. BROMLEY.
" JULIA.....CAPT. E. CONKLIN.
One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SENATOR, leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.

Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE, President.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction, Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryant Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.

International Hotel,

JACKSON STREET,

BETWEEN MONTGOMERY AND KEARNY STS.,

SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents.

2112 F. E. WEGANT, Proprietor.

INTERNATIONAL HOTEL.

K Street, between Third and Fourth,
SACRAMENTO.

IS NOW ONE OF THE LARGEST AND MOST ELEGANT Houses in Sacramento. It has seventy-five Rooms, which can be had in suites for families, or singly to suit individuals—all new, furnished, large and airy, and well ventilated. No expense has been saved to make it comfortable and pleasant for guests.

Price of Rooms very low. Meals, 25 cents.

8112 gm B. EISENMEYER.

WHAT CHEER HOUSE,

SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.

Meals.....25 cents.

Board, per week.....\$4.00

Board and Lodging, per day.....1.00

Single Rooms......50

Railroad Ticket Office and Stage Office on first floor.

71123m A. J. SENATZ, Proprietor.

Rheumatism!!

ANOTHER WITNESS!

SALMON FALLS, June 17, 1885.
H. BOWMAN—DEAR SIR: HAVING HAD A FAIR test of the virtues of RICHARDS' REMEDY FOR RHEUMATISM, I take great pleasure in stating that its effects with me have been even better than its recommendations claim. In 1883 I first heard of the Medicine. I had then been for three years severely afflicted with Rheumatism, and having tried everything I could hear of, without any permanent benefit, I concluded to try this.

On taking the medicine in three days I experienced great relief, and in one week was entirely free from pain, and had completely recovered. I have since used it, which had become almost powerless, so much so that I could not dress myself without assistance. Since that time I have been free from Rheumatism. I have recommended RICHARDS' REMEDY to numerous friends, and in every case it has proved successful. I therefore take great pleasure in recommending it to all who are afflicted with Rheumatism, and especially to all mercurial chronic Rheumatism cases.

Yours respectfully,

(Signed) ERASTUS PARSONS,
President of the Gen. Grant Mining Company.

RICHARDS' REMEDY is for sale by

H. BOWMAN,
Druggist, Sacramento.

Price, \$2.50 per Bottle.

Important to Californians.—Many inventors have lately been claiming for Patent, and some have been granted, patents for the unqualified agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the requirements of the Department, and properly filed all necessary papers as Claim Agents.

REMINGTON'S ARMORY.

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Ophir Silver Mining Company—Location of
Works, Virginia District, Sta. 8, 1895.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of October, 1866, an assessment of six dollars (\$6) per share was levied upon the capital stock of said company, payable October nineteenth. In the United States gold coin, to the Secretary, at the Company's office, No. 402 Montgomery street, St. Louis.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, to satisfy said assessment. And the same shall be sold on the tenth (10th) day of December, 1866, to the highest bidder, for cash. And the proceeds of said sale shall be applied to the payment of said assessment, together with the costs of advertising and expenses of sale. By order of the Board of Trustees.

THOS. H. JOHNSON, Secretary.

and unless payment shall be made before, will be sold on the tenth (10th) day of December, 1866, to pay the delinquent assessment, together with

and expenses sale. By order of the Board of Trustees.
THOS. J. LAMB, Secretary.
Office, 402 Montgomery street. cc20

Office of the Ophir of the Colorado Silver Mining Company.—October 15th, 1866.

ANNUAL MEETING.—The Annual Meeting of the Ophir of the Colorado Silver Mining Company will be held at the Ophir mine, on the 15th inst.

the Secretary, No. 628 Clay street, San Francisco, at 4 o'clock P. M., MONDAY, the 19th day of November. 1866, for the election of officers and the transaction of business.

ocl6 T. A. MUDGE, Secretary.

Providence Gold and Silver Mining Company,
Nevada County, California

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of

levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of November, 1866, shall be deemed delinquent, and will be duly advertised for sale.

will be sold on Saturday, the eighth day of December 1866, to pay the delinquent assessment, together with costs and expenses of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, No. 10 Government House, San Francisco and California.
San Francisco, October 19, 1866. oc20

Santa Cruz Petroleum Oil Works Company.
Location: Santa Cruz County, State of California.
Notice is hereby given, that at a meeting of the Board of

ber, 1866, an assessment (No. 17) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, R. W. CROWE, 415 Montgomery street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the sixth day of November, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1866.

advertising and expenses of sale. By order of the Board
of Trustees.

Office, 415 Montgomery street, San Francisco, Cal. oc6

San Marcial Silver Mining Company.—Location of Works: San Marcial, District of Hermosillo, State of Sonora, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-seventh day of August, 1866, the several amounts set op-

Names.	No. Certificate.	No. Shares.	Amount.
Clark E. S.	318	1	\$ 1 00
Clark L. S.	322	9	9 00
Fargo C. F.	350	125	125 00
Keeslug B.	296	50	50 00
Keeslug B.	307	100	100 00

Keesing B.	36	30	63	00
Keesing B.	36	30	30	00
Keesing B.	341	125	13	00
Murphy S.S.	92	166	60	00
Murphy S.S.	94	100	100	00
Murphy S.S.	165	5	50	00
Murphy S.S.	203	5	5	00
Murphy S.S.	29	100	100	00
Murphy S.S.	310	40	40	00
Murphy S.S.	320	25	25	00
McCauley John F.	367	890	890	00

Nicholson John J.....	213	2	2 00
Nicholson John J.....	306	4	4 00

And in accordance with law, and an order of the Board of

many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salesrooms of Maurico Dore & Co., 327 Montgomery street, San Francisco California on Wednesday, the twenty first day of November, 1866, at

R. N. VAN BRUNT, Secretary.
Office, 331 Montgomery street, San Francisco. oc20

Tecumseh Gold, Silver and Copper Mining Com-
pany, Gopher District, Calaveras County, Cal.
 NOTICE.—There are delinquent upon the following de-
 scribed stock, on account of assessment levied on the

Names.	No. Certificate.	No. Shares.	Amount.
Ch Spencer.....	16	10	\$5 00
J P Schaefer.....	not issued	10	5 00

O F Saloman.....	24	10	5 10
Geo W Roberts.....	70	20	10 00

John A Reichert.....	42	10	8 00
John A Reichert.....	43	10	6 00
John A Reichert.....	44	10	6 00

John A. Relchert.....	46	10	5 00
John A. Relchert.....	47	10	5 00

John A. Reichert.....	10	5	50
John A. Reichert.....	10	5	10
John A. Reichert.....	12	6	10

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of September, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on the

Office No. 10 Folsom street, San Francisco, Cal.

POSTPONEMENT.—The above sale is hereby postponed until
 November seventh, 1866, at the same hour

and place. By order of the Board of Trustees,
 CHARLES OSMER, Secretary.

Mineral and Scientific Press **PATENT AGENCY**

BOOK and JOB
PRINTING
Office

DEWEY & CO.,
Publishers,
(Established 1860)

CIRCULARS FREE.

Published Saturdays, containing 16 pages, at \$5 per year.

Illegal Supplemental Advertising.—It would be well for Mining Companies, whose advertise-

ally papers, to inquire into the legality of that class of
advertising.

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Frame; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective millers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the miller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been bruised. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

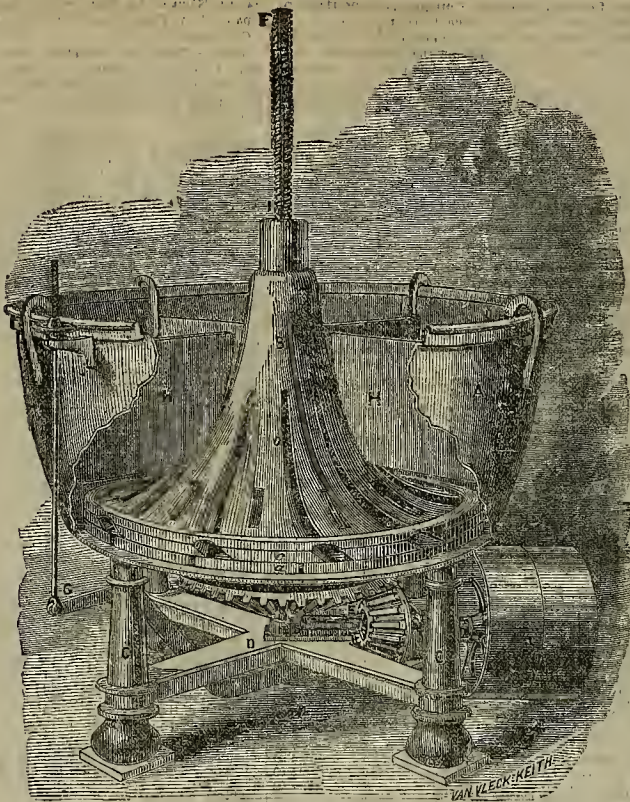
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works.

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

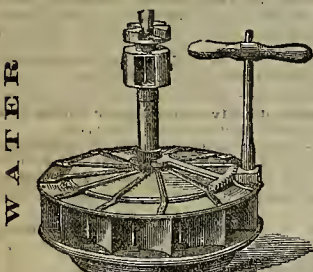
This Amalgamator Operates as Follows:

The pan being filled, the motion of the miller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,** San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by **KNAPP & GRANT,** 310 Washington street, San Francisco, who are desirous to use water-power can be supplied. These wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in mill-race inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to **KNAPP & GRANT,** San Francisco.

Leffel's Lever Jacks.

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by **KNAPP & GRANT,** San Francisco.

To Ditchmen, Millmen and Others Requiring **IRON PIPE.**

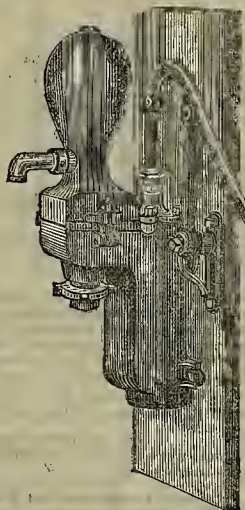
M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of **IRON PIPE** of every description. He also has on hand a deep well **FORCE PUMP** of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground.

STODDARD'S CELEBRATED WATER FILTERS!

PURIFY RAIN, RIVER, OR SPRING VALLEY WATER perfectly pure and healthy. Three sizes. Price, \$12, \$15 and \$18. For sale by **S. B. STODDARD,** Corner of Battery and Pacific streets, San Francisco.

June 23, 1866.

The Hansbrow Pumps



ARE WARRANTED THE

BEST PUMPS OFFERED.

All Sizes, for any Purpose,
FOR SALE BY
LOCKE & MONTAGUE,

112 and 114 Battery Street,
SAN FRANCISCO.
16v13-2m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—AT THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,
416 Market street, San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
SAN FRANCISCO.

It tells us truly the Minute, Hour, Day of the Week and Day of the Month.

HORTON'S PATENT CALENDAR CLOCK!

MANUFACTURED BY THE

ITHACA CALENDAR CLOCK COMPANY,

Ithaca, N. Y., and for sale by

W. J. EGBERT, Agent,

At Jon M. SEAMAN & Co's, 631 WASHINGTON STREET, San Francisco.

THIS TIME PIECE costs but a trifle more than any other good clock, and is just the article for every well-regulated business house, office, saloon, or, in fact, any place where a handsome, perfect time-keeper is duly appreciated. The Clock has two dials, the first being the same as an ordinary clock, the second has but one pointer, and shows the day of the week, the month and day of the month. It is arranged to mark the days in leap years with equal regularity. It is an eight-day piece, and runs from year to year without change. It can be examined at the Office of the MINING and SCIENTIFIC PRESS.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDARD'S IRON WORKS,
114 Beale Street, San Francisco.

V. CUSHING, Agent

—FOR THE—
Purchase & Shipping of Machinery
OF ALL KINDS.

Special attention given to **Quartz Mill Machinery** and **Findings,** and **Miners' Material** of every description.

Being a **PRACTICAL MACHINIST,** and giving my personal attention to the execution of orders, I can guarantee the **BEST** class of work at the **LOWEST PRICE** in the city.

Refer, by permission, to—

Governor F. E. Low,
C. T. Meador, Stockton;
Jacob Underhill & Co., San Francisco;
J. W. Stowe, Russell & Erwin Manufacturing Company;
Office, No. 120 Front street, San Francisco.

Coffey & Risdon, San Francisco;
Geo. K. Guyas, Chief Engineer of Cal. S. Nav. Co., San Francisco.

FOR SALE!

QUARTZ AND MINING MACHINERY.

ONE GARDNER'S THUNDERBOLT CRUSHER, LARGEST size and best quality; is entirely new, with all extras— with a large lot of other Quartz Machinery, including Engines, Boilers, etc.

COFFEY & RISDON.

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,
8v13-1y Store No. 125 Clay street, below Davis.

The Mining Press comes loaded with a rich variety of mining intelligence, and all sorts of scientific interesting matter.—[Amador Ledger.]

[Written for the Mining and Scientific Press.]

The Shasta Silver Mine.

EDITORS PRESS:—In compliance with your request for more information in regard to the silver mine from which the cabinet specimen presented you by C. F. Ellsworth, Esq., alluded to in last week's issue, was taken, I have to say, that the Chico silver mine was discovered by Mr. N. S. Batchelor about the middle of May last, on the south fork of Clear creek, eight miles southwest of the town of Shasta, in Shasta county, Cal. The formation of the country is entirely granitic, the lode on the surface from 13 to 22 inches thick, almost perpendicular, and runs in a southwest and northeast direction, through a mountain probably 750 feet high, near a stream affording ample water power nearly all the year round, and with an unlimited supply of oak and pine wood for all purposes, accessible by good roads at all seasons of the year, and near cheap and abundant agricultural supplies of every kind. The mine was placed under contract by the company to Robert McCall, to be prospected, with the privilege of purchase, for three months, at a stipulated price. Mr. McCall has been running a tunnel on the lode, which is now in about 130 feet, and sinking a shaft with the lode about 65 feet in depth, with a run each way from bottom of shaft say thirty feet. The lode at that depth is four feet in thickness and increases rapidly, with two feet in thickness of such ore as the sample presented you and the balance good millable ore, estimated to be worth from \$50 to \$75 per ton, of which there is about 225 tons on hand at the mine. For two months past the contractor has been shipping first and second-class ores here and selling the same to Thomas Price, to be shipped to Swansea, the working assays of which show respectively the following results: First-class—\$269.64, \$292.26 and \$328 per ton; second-class—\$143, \$137, \$132, \$105.59 and \$84.85 per ton, those figures being the purchasing tests less the margin for profits. The point where the shaft and tunnel are commenced was a very rich outcrop of silver, that may be a chimney, and assumes the form, in prospecting, of a very large ore chute, apparently inclining in a southwest direction, while the dip of the vein is to northwest, at not exceeding an angle of three to five degrees. The lode is like a wedge, big end down, and, as above stated, has increased from thirteen inches on surface to four feet at depth of 65 feet.

The lode is well defined for a great distance, and is encased with a hard granite wall on each side, from which it is separated by what is called a gouge of tough clay, an inch and one-half thick on the hanging wall. The wall rock presents a greasy appearance, and the whole claim has all the characteristics of a rich and permanent mine. **PROSPECTOR.**
San Francisco, Oct. 19th, 1866.

THE NATOMA DAM is being built under the superintendence of the man who built the great dams at Lowell and Lawrence. Its location is naturally and precisely adapted for this use; the very bed-rock is of an irregular conformation into which a dam can beet grapple itself. On both sides the hard, solid granite rises to a considerable height above the level of the dam without fault or fissure. The foundation stones throughout are countersunk in the bed-rock to the depth of from one to two feet. Great care has been taken to place each block on even bearings, so as to preserve its entire strength. The height is about forty feet above the general level of the river bed; the length is about three hundred feet on top, and the base forty feet in width. The slope of the back of the dam from a short distance above the bottom is one to one, and the batter of the face is one to ten. The whole dam, face and back throughout, is constructed of long, large blocks of granite, point dressed and carefully fitted. The whole is completely laid in the best hydraulic cement.—[Folsom Telegraph, Oct. 20.]

A HOAX.—The story of the invention of a bullet-proof coat, which recently appeared in the *Nord*, turns out to be a hoax. The pistol was loaded with a small cork only, and the factitious bullet, which was afterwards shown to the astonished spectators, was dropped upon the floor by the perpetrator of the hoax the moment the weapon was fired.

CALIFORNIA FRUIT FOR THE WORLD'S FAIR.—We learn that California will be represented in the fruit department at the World's Fair at Paris, in 1887, in the following manner: Some months since, a gentleman who has a fine vineyard and orchard near Alviso, had a number of water-bottle shaped jars made at the San Francisco Glassworks at Steamboat Point. These jars have a mouth about 2½ inches wide, are 12 inches high, and have a round-bottomed bottom six inches wide, with a small hole in it. The jars were to be placed over young fruit, so that it could in time fill the inside, accommodating itself, in growing, to the shape of the jar. The fruit when ripe is to be carefully cut off and the stem secured, so that a cork can be sealed over it. Through the hole in the bottom the jar is to be exhausted of air and hermetically sealed. It is said that the absence of air will insure the keeping of fruit for an indefinite time, while the jars being strong will admit of safe transportation to any part of the world. The jars being of white glass, the fruit can be plainly seen through them. It is probable that similar attempts to preserve green fruit for the Paris Exhibition are being made in other portions of the State.—*Bulletin, Oct. 20th.*

THE Western Union Company already own 100,000 miles of wire, and have a controlling interest in the California State Telegraph, which, it is expected, will ere long be wholly in their hands. Two distinct lines will soon vibrate between Chicago and San Francisco, put up on separate poles the entire distance, though following the same route, except the divergence at Julesburg to Denver, which takes the main route again at Ham's Fork. A line hence to Vancouver Island, via Boise and Walla Walla, would be greatly serviceable to business interests, and is among the early probabilities. As fast as the rail-cars come westward from Omaha, it is determined to erect a line parallel with the track, with four wires on cross-pieces upon cedar posts, which will be the finest line in the world.—*Salt Lake Telegraph, Oct. 11th.*

NEW MUSICAL INSTRUMENT.—A new musical instrument has been introduced in Paris. It resembles a piano with upright strings, except that the latter are replaced by tuning forks, which, to strengthen the sound, are arranged between two small tubes, one above, the other below them. The tuning forks are sounded by hammers, and are brought to silence at the proper time by means of dampers. The sounds thus produced resemble those of the harmonium, and are extremely pure and penetrating.

Auction House.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 413 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.

STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS, And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the MINING AND SCIENTIFIC PRESS.

The Mercantile Gazette

—AND—

PRICES CURRENT,

E. D. WATERS, Proprietor.

Office, Northeast corner Clay and Battery sts., SAN FRANCISCO.

"The Mercantile Gazette and Prices Current" is the only

Commercial Paper

ON THE PACIFIC COAST.

PUBLISHED EVERY STEAMER DAY.

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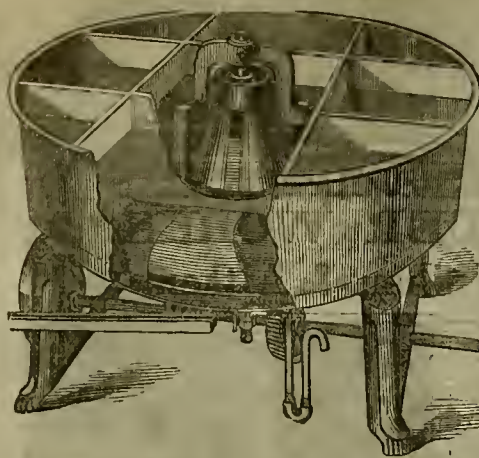
THE LETTER SHEET PRICES CURRENT

For enclosure in letters, is also published every STEAMER DAY.

J. B. CONE. E. F. BOWMAN.
Employment and Business Agency.
J. B. CONE & CO.,Supply Male and Female Help, sell Farms, Mines and places of business, negotiate loans, and procure partners. Orders sent by mail or express will be promptly attended to.
J. B. CONE & CO., No. 402 Montgomery street, 12v13t

Knox's Improved Patent Amalgamator and Separator,

With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of

14v13-12q

At the Golden State Iron Works, No. 19 First street, San Francisco.

CAUTION!

NOTICE—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1884, and tested June 27th, 1885, to Professor Henry Wertz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY, OF NEW YORK,

Assignees of letters patent granted to Prof. Henry Wertz, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.

The terms and conditions upon which rights to use the process are obtainable, can be had on application to: WM. SLOSSON, Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 14v13

NEW YORK PRICES.

C. E. COLLINS,
No. 603 Montgomery street, San Francisco.
EXCLUSIVE AGENT
FOR THE
AMERICAN WATCH FACTORY.
A large assortment of these
Superior Watches,
In Gold and Silver Cases,
Constantly on hand, and sold at Factory prices. Also,
ENGLISH AND SWISS WATCHES,
Imported directly from the Manufacturers.
The American Company are now making
VERY FINE WATCHES FOR LADIES.
A large assortment of Gold Chains and Jewelry. 12v10-6m

WATCH REPAIRING AT NEW YORK PRICES.
WATCH REPAIRING AT NEW YORK PRICES.

NEW YORK PRICES.



STANDARD SOAP COMPANY'S WASHING POWDER.

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material and contains nothing that will injure the finest fabric. Equally as good for use in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1 lb each, and in wooden boxes of 10 lbs bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15v12q

WE ARE NOW OFFERING OUR IMMENSE STOCK

Fine Custom Made Clothing

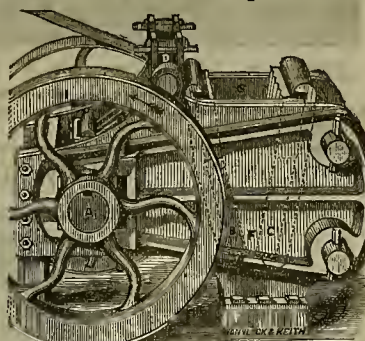
Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,
Opp. of Washington and Sanson streets.
8v10

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1.—Or 8-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....\$600
No. 2.—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour.....850
No. 3.—Or 24-inch Crusher, with in a similar manner crush from seven to eight tons per hour.....1,200

EXPLANATION OF THE ABOVE ENGRAVING.

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient light to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the link or radius bar. C represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1885. JAMES BRODIE, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations, and I have no hesitation in recommending to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1884. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1885, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1885.

BRODIE'S PATENT WIND-ELAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations are offered on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 12th, 1885.

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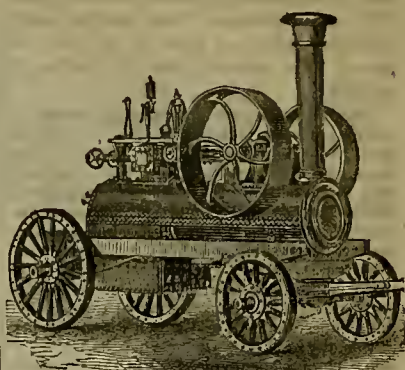
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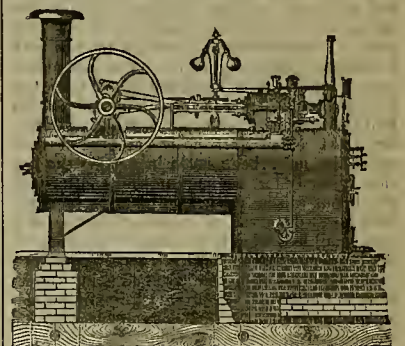
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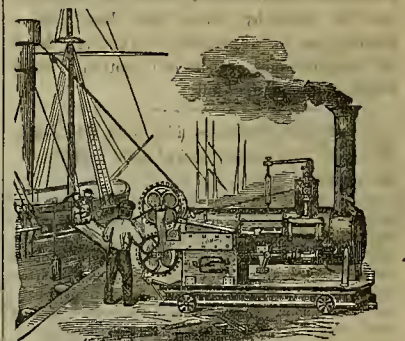
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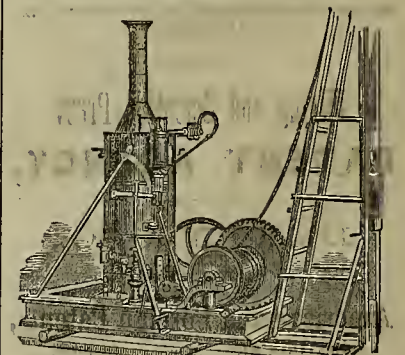
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EASTERN MACHINERY FOR CALIFORNIA.—We have repeatedly spoken of the absurdity of sending East for mining machinery, while our own manufactories are turning out such splendid work in the way of those machines which have been tried and approved on our own ground. The following, from the *Bulletin*, is in point:

About a year ago a large quantity of mining machinery was received in this city, which came from New York via the Isthmus. The machinery was sent by a New York company, with the intention of erecting a mill at Reese River, Nevada, and comprised, among other articles, a 60-horse power engine, boilers, extra castings, a crushing machine, and even window frames, on the whole of which was paid three cents—gold—per pound freight to this port. From some cause the company recalled their Superintendent and stored the machinery in this city, and now are offering the latter for sale. The first or invoice cost of the shipment was about \$40,000 in greenbacks, and at least half more has to be added for freight and other expenses to date, making a total of \$60,000. The mining machinery being the fruit of some theoretical, scientific gentleman in the Eastern States, is considered almost worthless alongside of the improved machinery used on this coast, and will bring only the price of old iron, the entire invoice not being valued at over \$8,000 gold. The machinery of a mill of the size with a 60 horse power engine to run it, competent parties assert can be furnished by our foundries for less than \$20,000 in gold, in this city, about half the amount the almost worthless machinery from New York cost. Months of time could also have been saved in getting the machinery ready for use, and in the contingency which has arisen requiring its sale it could have been disposed of to other parties at a very small loss from first cost. The people of the Eastern States must have a very poor idea of the progress of mechanics and mining knowledge in California, when they ship mining machinery and window frames to be used on the Pacific coast.

The above is, it is true, an unusually expensive experiment of the kind; but for the last ten years or more, the most absurd contrivances have from time to time been imported into our State by parties who have lent a listening ear to *unpractical* inventors. Most of these machines now lie in forgotten rubbish heaps, monuments of folly.

WORDS FOR MINERS.—The *Gold Hill Daily News*, Nevada—a medium of good authority—saith thus:

The *MINING AND SCIENTIFIC PRESS* is a weekly journal, published in San Francisco, which is entitled to the subscription patronage of every practical miner in Nevada, and every person interested in Nevada or California mining operations. It is a well gotten up sixteen-page quarto; and its reading would tend vastly to the particular "posting" and general enlightenment of our sort of working folks. Subscribe for it. Five dollars a year; three dollars for six months. It should have an agency in Virginia and Gold Hill; but we see none advertised in its columns. Every new improvement in mining implements and operations are fully described by words and illustrated by wood cuts in this excellent publication. A specimen number can be seen at our office.

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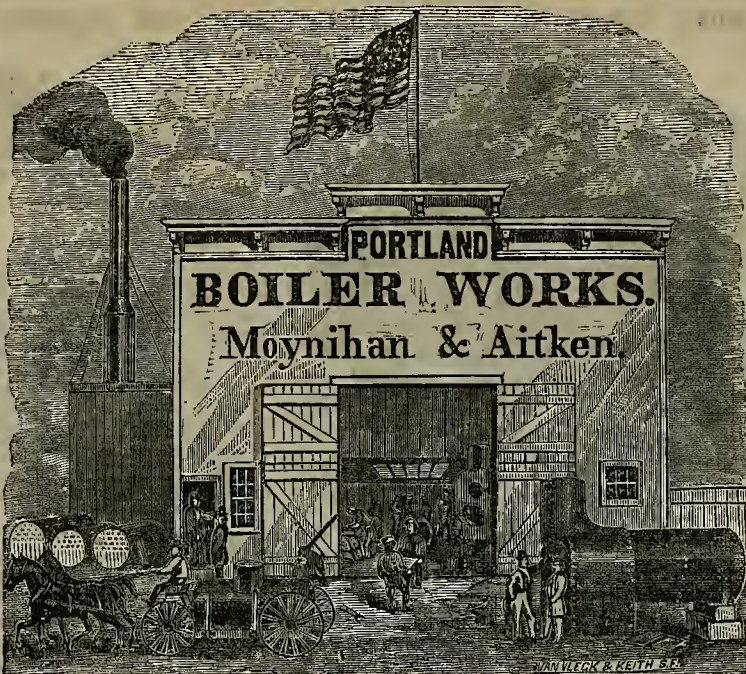
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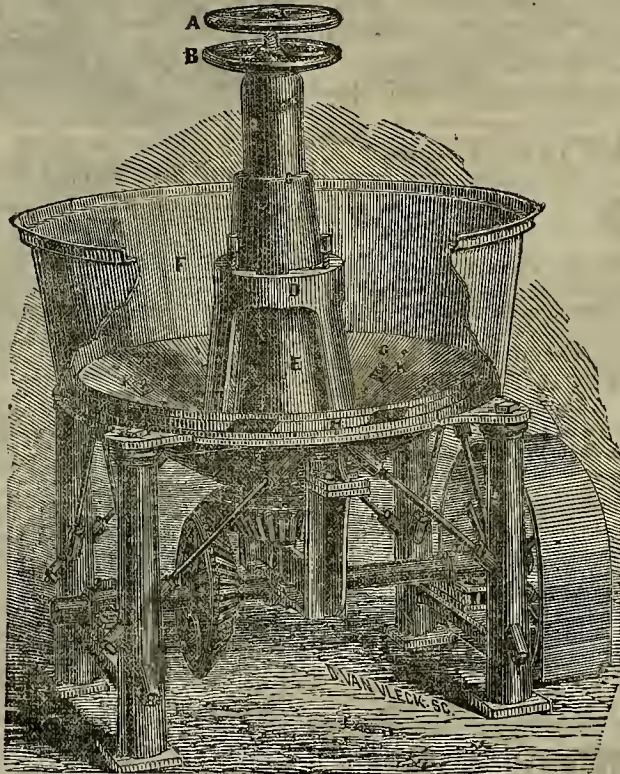


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SANTIAGO.	Zephyr Flat.	BELTON & REDGORY.	Esmeralda.
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SAN FRANCISCO, SATURDAY, NOVEMBER 3, 1866.

VOLUME XIII.
Number 18.

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CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

103-104.—Messrs. Garrett & Rowe, owners of large Sulphur claims in Colusa county, have sent us some fine specimens of sulphur from that locality. One of the samples appears to be a combination of sulphur, siliceous and alumina, with from fifty to eighty per cent. of sulphur. Some of the specimens are almost pure. There is an abundance of wood directly at the foot of the mountain, where they propose to put up the retorts for obtaining the pure article, and to which the raw material can be conveyed in "chutes" directly from the summit of the mountain. The locality is about four miles east of the west line of Colusa county, and about eight miles from the deposit now being worked by the Borax Lake Co. The cost of shipping from that point, with a good wagon road, will be about the same as from the Borax Company's sulphur mine.

105.—Black oxyd of manganese, from Red Island, San Francisco Bay, presented by Mr. R. E. C. Stearns. A large amount of this mineral has been obtained from the locality mentioned, and a shipment of the same has recently been made to England, for testing its commercial value in that market. The supply of this mineral has hitherto been chiefly obtained from Ohio, Virginia, and near St Johns, N. B. Large quantities have been shipped from the last mentioned locality to England. Manganese is extensively used for bleaching purposes, in the manufacture of glass, steel, varnish, refining of coal oil, etc.

106.—Presented by Charles H. Leach. Silver and gold ore from El Dorado Cañon, Arizona. This is reported to assay \$400 per ton.

107.—Presented by Charles H. Leach. Copper and silver ore from Durand Pass, Los Angeles County, Cal. Fifty-six per cent. of this is said to be metallic copper, and the ore assays, in silver, at the rate of \$164 to the ton.

108.—Yellow sulphurets of copper, encrusted with asbestos, from the Fox copper claim near Colfax. Presented by Mr. Thorpe, one of the proprietors of that mine.

SAMPLES of California wines, of from three to six cases each, are being forwarded from various parts of the State for the Paris Exhibition. Cutlery, woolen goods, and other articles of California manufacture, are being made ready for the same destination.

COMMUNICATION.—From "G. F. D." Meadow Lake, will be attended to next week.

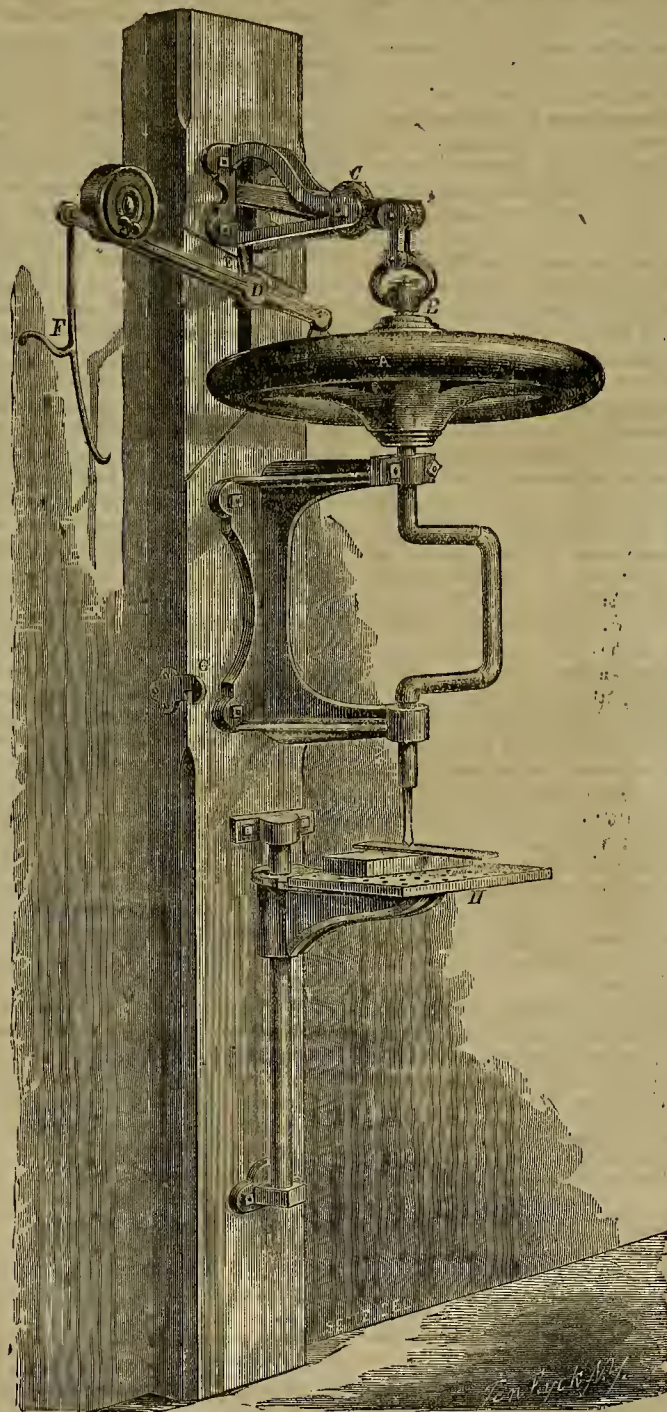
PATENT SELF-FEEDING METAL DRILL.

We have here a fine engraving of Warren Lyon's self-feeding hand and power metal drill, a machine which, we are informed by the proprietors, has been introduced with much

drill, for the purpose of giving the requisite pressure, and in having a system of levers and a counterpoise connected to the upper part of the arbor, for the purpose of elevating it and graduating the pressure communicated to the drill by the weight upon the arbor. The drilling

The feed being always of the same pressure, enables it to drill fast without the danger of breaking the drill, which often occurs in drilling small holes, where the pressure is obtained by a screw or lever.

The article to be drilled is placed upon the bed plate, H, and the drill bears upon it with sufficient pressure to give the necessary feed, owing to the balance wheel, A, as shown, which serves to steady the action of the drill and also as a weight. The upper end of the spindle is provided with a swivel joint, B, to which the lever, C, is connected; by working the second lever, D, which is attached to the first by a link, E, the brace and wheel may be elevated so as to put the work in place. There is also a hook, F, which fastens over a catch, G, on the post, and keeps the wheel suspended while the work is adjusted. The table, H, is made to raise and lower to suit different kinds of work. This drill may be erected any where, and is very easily turned by a stout boy.



LYON'S PATENT SELF-FEEDING METAL DRILL—Fig. 1.

favor into many car, truck, carriage, and other manufactories and machine shops in the Eastern States. It appears to us to be admirably adapted for light and varying work.

In Fig. 1 of the illustration there will be observed a weight attached to the arbor of the

machine has a gauge connected with it, so that any number of holes can be drilled or counter-sunk to any depth, say from an eighth of an inch to three inches, and they will all be the same, without spending any time to measure them. It can be used either by hand or with power.

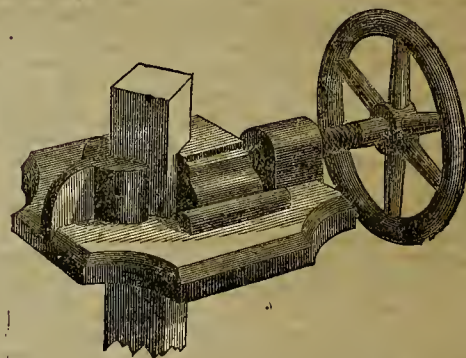


Fig. 12.

Fig. 2 represents an attachment used for drilling bars endwise, for the reception of bolts or other pieces. Either a round, square or flat bar can be held in it; the table or bed plate H, is removed at pleasure, so it may be secured to the arm holding the table.

Further information concerning these drills can be obtained by addressing Messrs. Lyon & Isaacs, Box 5,475, P. O., New York.

CIRCULAR AND PATTERN LIST OF THE UNION FOUNDRY.—We acknowledge the receipt of several copies of a book of one hundred and forty-eight pages, octavo, with the above title. It is bound in morocco and gilt, making a handsome and substantial volume. In the table of contents we notice articles on various processes and subjects interesting to millmen and mechanics. The book conveys a good idea of the extensive works of Messrs. Booth & Co., the largest foundry and machine shop on the Pacific coast. We anticipate quoting from its contents in future issues.

A NEW STYLE OF ORDNANCE.—Señor Gonzales, a Mexican, has applied for a patent for a new breech-loading cannon. It is of the ordinary shape, except the breech, which is heavier than usual, and oval in form, with a projection on the under side. At the butt is a screw-plug, in which is an opening twice the size of the caliber of the gun, through which the cartridge is introduced. By turning the plug the breech is closed. It is claimed that it can be loaded and fired sixteen times per minute. Experiments have been made with it at the Presidio, which have proved satisfactory.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

The Effect of Heat on Sulphate of Copper.

BY E. PIQUE.

All the works on chemistry state the fact that sulphate of copper, if exposed to heat will lose its sulphuric acid, and the residue will be oxyd of copper. This certainly will be the *ultimate result* if a bright red heat be applied, and sufficient time allowed, particularly under free access of atmospheric air. But if we enclose the sulphate of copper in an appropriate vessel and gradually apply heat, even up to dark red heat, it will first turn *white*; after that it will assume an *orange color*, and later, a *dark flesh or copper color*; when we now discharge the contents, and treat them with very dilute sulphuric acid, we obtain at once a *bright red precipitate*. All these reactions show very plainly, not only that a dismissal of the sulphuric acid has taken place, but that the oxyd of copper has parted with some of its own oxygen, so that it has changed into protoxyd.

The anhydrous sulphate of copper being white, and the oxyd of copper black, a mixture of both should be gray; and if the operation should only consist in the discharge of the sulphuric acid, as generally imagined, the color should change from white into gray, and from gray by degrees into black; but such is not the case. Now what is the cause of the oxyd of copper being deoxydized? The sulphuric acid cannot deoxydize it, as sulphuric acid rather acts as an oxydizer on different metals at the expense of some of its own oxygen, as everybody knows; but is never known to deprive the oxyds of their oxygen. The oxyd of copper, by itself, has no inclination to part with any of its oxygen. What then can be the cause of it? I solved this problem by the following reasoning: If the sulphide of copper be heated in a closed vessel, it loses one-half of its sulphur, and changes into protosulphide of copper (one equiv. of copper + half an equiv. of sulphur). In like manner the chloride of copper, under the same conditions, gives up half its chlorine and changes into protochloride of copper. Arrived at this point, I could not proceed with my reasoning under the old formula of the sulphate of copper ($\text{SO}_3 + \text{CuO}$), and I have been obliged to adopt the formula of $\text{SO}_4 + \text{Cu}$. If, then, the chloride of copper loses by heat half an atom of chlorine, we may infer by analogy that the sulphate of copper loses half an atom of SO_4 , the latter being the constituent of the sulphate of copper, corresponding to the chloride of the chloride.

According to this view, no reduction or deoxydation has taken place, since the copper in the sulphate existed originally in the metallic state, and the result of heat, excluding the action of air, will be *one atom of copper + half an atom of SO_4* , which, when treated with water, will show the known reactions of the protoxyd of copper; and the above facts prove most conclusively that the sulphates do not contain the metals in an oxydized condition, but as *pure metals*.

MOLDS FOR CASTING STEEL, IRON, ETC.—Mr. Frederick Trachsel, analytical chemist, and Mr. William Hall, brassfounder, Manchester, have patented certain improvements made by them in molding for casting steel, iron, and other metals. According to the usual process of molding for casting, it is well known that sand is employed, which is more or less siliceous, the silica of which, when submitted to the melting temperature of certain metals, becomes fused and combines with the said metals. This invention consists in substituting for the aforesaid sand a material which does not substantially contain free silica, lime, or other material which will fuse at the melting temperature of the metal to be cast. With this view, materials with an aluminous base, having been previously reduced to a state of powder, are employed in place of the usual sand, and after the ordinary manner of molding. As illustrative of the invention, coal-shale or fire-clay ground when dry to a powder, may be used as above described.—*Col. Guardian, Sept. 15th.*

[Written for the Mining and Scientific Press.]

Placers of Sierra County.

BY AN INVESTIGATOR.

EDITORS PRESS:—The area of the unworked placer ground of Sierra is probably not only of greater extent than that in any other county in the state, but unsurpassed for its richness, chiefly owing to an ancient river and its tributaries having coursed through the county in a northerly and southerly direction. Notwithstanding that it has formed the principal mining of the county for nearly twelve years, yielding fabulous returns, the workings only serve to show the almost inexhaustible character of the deposits from the small area worked. The river channel and its contents were preserved from denuding agencies by a covering of volcanic material, that at a time anterior to the upheaval of the Sierra Nevada range to its present height, must have flowed from a series of fissures and volcanic vents, extending on a line parallel with the river and easterly, flowing southerly and westerly, not only filling the river bed and its tributaries from ridge to ridge, but covering an area of hundreds of miles for hundreds of feet in depth. At this time the shores of the Pacific washed the base of the Sierra Nevada range, since which the upheaval of the Coast Range of mountains has removed the shores of the Pacific from sixty to eighty miles westerly. A corresponding upheaval in the Sierras ensued, changing the entire face of the country. New channels were formed, an entire new system of rivers created, coursing easterly and westerly, at right angles with that of the ancient, which had a southerly trend, nearly parallel with and similar in many respects to the River Sacramento, but lying easterly, and at a distance nearly corresponding with the removal of the shores of the Pacific. This river coursed with the stratification naturally selected for its bed, the softer and more friable magnesian and talcose rocks, or the easily decomposed feldspathic igneous rocks, cutting deep gorges in these, the main metalliferous belts of the Sierras; pulverizing their powerful veins of auriferous quartz, and freeing its gold, which, from its specific gravity, soon found a resting place with quartz boulders and pebbles in its bed. The lighter magnesian detritus either formed its heavy banks of clay (pipe clay) or was carried off by the rush of waters. It is the extensive denudation of this auriferous belt—assisted by an immense flow of water, caused by the rapid melting of extensive glaciers and snows which capped the Sierras—(of which we have abundant evidence in the glacier-marked rocks)—at the time of the outbreak of volcanic forces along its entire range from north to south, its melted lavas at intervals and at points in near proximity flowing into its channels, filling them from ridge to ridge—thence downward and onward in its bed, damming the rivers for hundreds of feet in height, forming immense lakes overflowing their banks—cutting down entire ridges from river to river and from fork to fork, emptying the contents of its beds into other sister channels—crushing, breaking and tearing through every obstacle with the irresistible force of accumulating and pent-up waters—that has so greatly enriched our placers and formed the several classes of mining known as hydraulic and tunnel diggings. The destruction of these ancient river channels in places, by the denuding agencies of the present river system, though not so violent in its effect, has been slow but sure;—cutting down through the almost indestructible lava beds of volcanic cements to the river beds—scattering their precious contents and cutting still deeper gorges from 1,000 to 2,000 feet—by a kind interposition of Providence freeing from their rocky fastnesses the rich stores of golden treasure, and distributing them where the penniless adventurer and laboring man have reaped, with no other capital but their own strong arm and determined will, rich harvests—completely reversing the hitherto established order of society. All professions, trades and occupations were represented in the melody of gold seekers; pick, pan and shovel the implements—pen, gown and scientific acquirements at a discount, and digging for gold the order of the day. Before describing the placer localities alluded to, I will endeavor to trace the approximate course of this ancient river and its tributaries, which by consent of the

reader and for my own convenience, I will call the *Dahlonaga*, (the Indian for place of gold). On the west we find three main branches or forks, which I will designate as the West Fork, Middle Fork, and North Fork; on the east, two branches of note—the Southerly the *Saranac*, (the river that flows under rocks); the northern branch the *Altan* (gold). There are several other unimportant branches emptying into the Dahlonaga from the eastward, which I will not attempt to locate.

[To be Continued.]

[Written for the Mining and Scientific Press.]

The Murphy Mine—Nevada.

BY J. D. EMERLEY.

AUSTIN, NEV. Oct. 20th, 1866.

EDITORS MINING AND SCIENTIFIC PRESS:—In Ophir Cañon, Twin River mining district Nye County, State of Nevada, is located the silver mine bearing this name. It crops out in crossing the cañon two and a half miles from Smoky Valley, and about 1,600 feet above the level of the latter. The course of the vein is nearly north and south, its dip being easterly at an angle of forty degrees. The lode appears to be twenty feet wide, but the richest portion of it varies from three to eight feet in width. When it was discovered in June, 1864, some beautiful specimens of native silver were found in the croppings, and occasionally delicate flakes of virgin metal are seen in the seams of the quartz now being extracted. The Murphy, the Green and the Twin ledges, three parallel locations each of 1,000 feet, running northerly from the cañon, passed into the hands of the Twin River Silver Mining Company of New York, in August, 1865. The locators received \$50,000 in gold for four-fifths of the ground, and \$60,000 of unassessable stock; the subscribed working capital of the company being \$300,000. Immediately on completion of the purchase, steps were taken to build a road from Smoky Valley to the mine. Owing to the steep and rugged nature of the ground, this was no easy undertaking, but a passable road was opened in about two months by an outlay of \$5,000. Work has been prosecuted on the mine steadily for fourteen months, and though thousands of dollars have been thrown away, through ignorance in mining matters of the New York agent, and his mismanagement generally, yet it is now clearly demonstrated that the Murphy is a mine of immense value, and quite capable, with anything like sensible management in the future, of yielding handsome dividends, even on the heavy expenditure which has been so needlessly incurred, both on the mines and mill of the company. As the mining operations are now controlled by an experienced Cornish miner brought from Lake Superior, there is a likelihood of sound judgment being displayed in time to come in connection with the developments.

The Murphy mine can scarcely be said to be prospected yet, as it has not been penetrated to a greater perpendicular depth than seventy or eighty feet. The hoisting, by means of a whim and "whipsey-derry," is through a shaft thirty-six feet deep, at the bottom of which an incline follows the dip of the vein some fifty feet downward. In the lower level, running northerly 200 feet, a fine body of heavy black sulphuret ore has been exposed, which with very little assortment will work \$200 per ton. In the south drift, a solid mass of \$300 ore has been penetrated, and from the incline and upper works good pay mineral is being taken out all the time. The company have a fine 20-stamp dry crushing mill, with all the necessary roasting furnaces, pans and settlers ready to go into operation, and unless there is great mismanagement in the working of the ores, satisfactory accounts of the yield of bullion may be expected in a few weeks. About 1,200 tons of pay ore are now on the dump, and enough can be brought to the surface from day to day, to keep the mill in steady work from this time onward. In neglecting to put hoisting machinery on the mine, considerable risk is being incurred from the probability of a heavy body of water being struck; but even in that case the suspension of operations would only be temporary.

A great deal of prospecting has been done in the Twin River district, and no doubt some of the numerous locations will prove valuable,

but hitherto nothing has been struck comparable to the Murphy ledge. The San Jose, as a gold bearing vein, yielding ore worth from \$100 to \$300 a ton, is certainly fine property, and the Ophir and other lodes, giving assays of silver \$50 to \$100 a ton, from the croppings, are worthy of attention. The discovery, however, of such astonishingly rich ledges as those of Hot Creek and Danville, sixty to seventy miles east of Twin River district, has for the time being thrown the latter into the shade, and it will probably be years before its mines generally receive the attention which they merit. A stream of pure water is running in every cañon, and wood will not exceed \$8 to \$10 a cord for several years, so that the expense of milling is not very extravagant. Good miners are paid \$4 to \$5 in gold per day, and board costs \$10 per week.

Brevities.

THE *Bee* says the arrivals of grain from the upper Sacramento are just now enormous.

THE Nicholson pavement seems to be gaining favor in New York.

MR. CLAUSZ, of Stockton, has made one hundred dozen brooms within the last month. It is said that the fire in the Bellingham Bay Coal mine is not yet extinguished after all.

GAS odors are said to be a preventive of cholera. The statement requires corroboration.

TWO tons of marble were sent to San Francisco from one quarry in Columbia, during the last week.

A MINING COMPANY in Louisiana has struck a solid block of pure lead, estimated to weigh thirty-three tons.

ONE hundred and twenty millions of steel pens are yearly made at the "Victoria Works," Birmingham, England.

NEARLY two hundred tons of grapes have been raised at the Natoma Vineyard in Folsom this season.

THE entire privilege of "sticking bills" on the inside and outside of the Paris Exhibition building has been sold for half a million of francs.

A LETTER from Australia says the gold fields of that country are rapidly becoming exhausted, and that those of New Zealand are answering the most sanguine expectations.

M. BAZIN, a French artist, takes photographs of sunken vessels by means of a strong sheet iron box with thick glass windows, which he calls his "photographic chamber," and with the aid of a powerful electric light.

LEADEN BULLETS are sometimes pressed instead of cast. It is now said that they are unreliable, for they are not only heavier than the others, but they gradually expand, so that after a time they regain the natural porosity of the metal.

THE locomotive whistles on the New York and Albany railroad are pitched upon a lower key than usual, and the improvement is duly noticed and appreciated by the people who live near the road. The shrill shriek of the older style was ear-piercing and injurious to invalids.

THE Wilmington, Los Angeles Co., *Journal*, says, in regard to the murder of Herman Ehrenberg: "There is ground for grave suspicion; the story of the crime having been committed by Indians appears to us doubtful; and we think the affair demands immediate and close investigation."

IT is reported that the Maryland Mining company, composed chiefly of Philadelphians, have got a steam mill nearly ready for quartz crushing. They bought a tract of land, about two miles below the great falls of the Potomac, of some one hundred and twenty acres. They have sunk several shafts and run some drifts, and in these have found "several well defined veins of gold-bearing quartz, which assays from \$40 to \$2,500 per ton."

A. M. TAYLOR, of Alameda county, intends to enter largely into the business of raising trout. A two-horse wagon load of live trout, from Lake Tahoe, had at last accounts arrived Oakland, on their way to the ponds which he has constructed on the margin of San Pablo Creek, eight miles north of Oakland. This is his third attempt; in the two previous, the fish had been killed by being supplied with water containing something which did not agree with them.

THE total value of the prizes to be given at the Paris Exposition is \$160,000 in gold. In the department of arts there are seventeen grand prizes, valued at \$400 each; thirty-two first prizes, valued at \$160 each; forty-four second prizes, valued at \$100 each, and forty-six third prizes, valued at \$80 each. Besides these there are to be various other grand prizes and allowances of money, of a total value of \$10,000; 100 gold medals, \$200 each; 1,000 silver medals, 3,000 bronze medals, and over 5,000 "honorable mentions."

Mechanical.

PHOTOGRAPHING CANNON BALLS.

The London *British Journal of Photography* gives a very interesting account of some experiments in the photographing of guns while being fired. In the pictures which were taken, the moment had been so exactly seized that the ball could actually be seen protruding from the muzzle of the gun, while, as we might say, in the very act of leaving it. A description of the mechanism by means of which this exactness was secured, will be interesting. It will of course be evident that no person, however delicate his perception, could act with sufficient quickness to expose the plate at the exact instant desired. It could only be done by means of electricity. A stereoscopic camera is arranged with a disk in front of the lenses, revolving on its axis. This disk has two holes in it, either of which can be made, by its revolution, to correspond with the line of the lenses. A circular spring is so attached to the disk, that when set free it will make a half revolution with the quickness of a flash, thereby bringing one of the holes in a line with the lenses and admitting the light for an instant. Now for the manner in which the disk is set free. First, the disk is "wound up," so that the spring referred to is, at its utmost tension. It is retained in this position by means of a catch and trigger, which latter is connected with an electro-magnet. The gun is fired by means of a tube containing gunpowder, through which runs a delicate platinum wire. When a galvanic "shock" is sent through this wire, it instantly becomes red hot, and melts. Two things are by this accomplished simultaneously; first, a current of electricity is transmitted which vivifies the electro-magnet and causes it to attract the trigger, thereby releasing the disk; and second, the powder is ignited and the gun discharged. In order that the aperture in the disk should be retained in a line with the lenses until the powder is fairly ignited, a stop holds it in that position until the wire melts. At that instant the continuity being broken, the electro-magnet ceases to act, nothing prevents the continued action of the spring, and the disk is carried round far enough to close the camera. The manner by which these two movements, so nearly contemporaneous without being exactly so, are thus effected, is exquisitely ingenious.

Steel Gun Barrels.

It has long been a desideratum that some economical method of manufacturing gun barrels of steel should be devised. The only method, worthy of note heretofore, has been that of forging the solid bar, and then boring it. This is slow work, and can only be done by machinery which moves with great nicety. A new process has been recently patented in England by Messrs. Deakin & Johnson, which bids fair to be a success. We quote a brief description of it from the London *Colliery Guardian* of September 15th:

"A round bar of Bessemer steel is cut into lengths, which are heated in an ordinary furnace. The short round block is then put under a vertical punch of considerable power, which is worked by steam, and a hole punched through it—an operation which requires only a few seconds. The perforated block is allowed to cool, and is then carefully examined to see if any cracks appear on the outer surface. The expansive force required to pierce a hole through a solid lump of steel necessarily subjects its outer particles to a severe strain, and is sure to develop any inherent defect, whether arising from faults in the material or unskillful workmanship. Should any external cracks appear, they are carefully cut out with a chisel if shallow, and if they penetrate deeply the block is rejected. Thus the first operation applies a most severe test to the metal. A piece of steel which can sustain without a flaw a force sufficient to punch a hole through it, will not give way from the explosion of any charge of powder to which as a gun barrel it can ever be submitted. The steel barrel having thus been perforated requires only elongation and reduction in thickness. This is effected by heating it and passing it through a succession of grooved rolls, with a mandril in the hollow of the tube, when it is ready for the lathe."

All attempts to produce a good barrel by

casting have failed. The welding of steel is a nice operation, and on a large scale cannot be depended upon. By the process above described, a perfect barrel can, it is said, be produced at a cost not exceeding that of an ordinary welded iron one.

Krupp's Steel Works at Essen, Germany.

The following, from the London *Mining Journal* of September 8th, will be interesting:

At the death of his father, in 1827, Alfred Krupp succeeded at the age of 14 to a small workshop for the manufacture of cutlery and rollers for gold. His genius and energy soon drove him forward, and by his courage, skill, and good fortune, he has become the sole possessor of an establishment which last year turned out upwards of 50,000 tons of cast steel, one-third of which was made into guns, the rest into bars, shafts for engines, axles, railway bars, tyres of wheels, plates for boilers and ships; in short, anything requiring at the same time strength and hardness. The works exclusive of the blast-furnaces, cover 400 acres of ground, consume 750 tons of coal daily, use the steam of 120 boilers, burn 7,000 flames of gas, and give employment to above 8,000 men and boys, whose wages amount to nearly £400,000 a year. The importance of retaining as nearly as possible the same men being fully recognized, a fund has been created, to which every man or boy employed must subscribe, and out of which he commands advantages sufficient to make it well worth his while to stick to his work. The rates of subscription and proportionate advantages are regulated by the wages, the higher grades of workmen subscribing 1d. and the lower $\frac{1}{2}$ d. per thaler (3s.). Mr. Krupp adds a sum equal to half that subscribed by the men. From the resources of this fund a workman can claim a pension sufficient to live upon respectably after 25 years' labor. Men injured in the service receive full pay for as long as they may be unable to work; the sick are treated and liberally provided for, and the dead are buried. Finding that the bread supplied to the men by the ordinary bakers was deficient in quality and quantity, considering its price, Mr. Krupp built large bakeries, whence he supplies excellent bread at cheap rates, buying the flour wholesale from Russia, and charging only a small profit. Similar arrangements are made for the supply of potatoes, and it is contemplated to extend the system to meat. This paternal management is very successful, and appears to work well for the interests of both master and men. Though a system of the same kind is carried out in some of our greatest establishments, it is not so thorough, nor on so great a scale. The working hours are divided into only two parts—the day's work from 6 A. M. to 7 P. M.; the night's from 7 P. M. to 6 A. M.

The largest steam-hammer weighs 50 tons, and is single-acting, with a 10-foot drop. It cost about £100,000, of which two-thirds was for the bed; and Krupp has obtained the necessary concession from the Prussian Government to permit him to build a 120-ton hammer, which is to have a 13-foot drop, but whether single or double-acting is not yet, I believe, determined. It is estimated to cost £200,000. Two huge guns, which are to be about 16 calibers in length, and to weigh 28 tons, are being manufactured for the Russian Government, and will cost £7,000 each. They are to be breech-loaders, on Krupp's principle, throwing a projectile of 540 pounds, with a charge of 50 pounds of prismatic powder, and are intended for the defenses of Cronstadt. A 15-inch breech-loading gun has been commenced, which will eventually belong to the Russian Government. It is to be exhibited at the Paris International Exhibition. The projectile will weigh about 900 pounds. The foundry is a very large building, with furnaces capable of heating upwards of 1,200 crucibles at once, that number being actually used for some of the largest casts.

INDIA-RUBBER TYPE.—A manufactory for making printer's type of vulcanized india-rubber has just been started at Dalston. This new style of type is said to be as quickly and easily made, and to be fully equal in quality and durability to the common type, the cost price being only one-third of the latter. It offers the advantage of less weight as compared with metal type, and it can be remodeled when worn. It presents particular advantages for stereotyping. The invention is American, and is said to be making rapid progress in England.

THE PENNSYLVANIA STEEL COMPANY are erecting extensive works near Harrisburg, for the manufacture of Bessemer steel. They will commence with an annual capacity of 15,000 tons. Steel will soon supersede iron for many purposes.

Scientific Miscellany.

LATEST DISCOVERY IN ELECTRICITY.—The *Practical Mechanics' Journal*, of June last, gives an account of some experiments of Mr. Wilde, which were brought before the Royal Society, by Professor Faraday, at a recent meeting of that body. Mr. Wilde had discovered the fact that a large amount of magnetism can be developed in an electro-magnet by means of a permanent magnet of much smaller power. Reasoning from this fact, that, as an electro-magnet, when excited by means of a voltaic battery, possessed all the properties of a permanent magnet, a large electro-magnet, if excited by means of a small electro-magnetic machine, could be made, by means of suitably arranged apparatus, to evolve a proportionate amount of dynamic electricity, he proceeded to prepare such an apparatus. The details of the arrangement we must omit, for want of the diagrams necessary to illustrate it. The result, however, was that "quantities of electricity far exceeding that obtainable by any other means hitherto used were given off. The illuminating power of the current thus obtained was of the most splendid description. With this arrangement placed upon the top of a lofty building, the light evolved was sufficient to cast shadows from the flames of the street lamps a quarter of a mile distant, upon the neighboring walls. The calorific power of the current was so great that it melted pieces of iron rod fifteen inches long and a quarter of an inch in diameter. The invention is of special value for lighthouse illumination."

CHEMICAL NATURE OF CAST IRON.—At the British Association meeting Dr. Russell read a preliminary report, prepared by Dr. Matthieson, F.R.S., "On the Chemical Nature of Cast Iron." Facts were quoted to show that the crystallized alloys of carbon and iron do not prove the existence of chemical combination between them. In all probability, by altering the conditions of cooling, etc., crystals of iron containing various amounts of carbon might be obtained from the same sample of cast iron. Data were given to show that the alloys of iron follow in some cases the same laws as other metals; and in order to see whether the assumption as to the chemical nature of cast iron was correct it was proposed—1. To make some pure iron. 2. To alloy the pure iron with various amounts of carbon, and to test the physical and chemical properties of these alloys. 3. To alloy the pure iron in different proportions with other metals and metalloids. From the foregoing considerations the author expected to be able to produce analogous alloys to iron and carbon, with some other metals having the peculiar properties of cast iron, steel, and wrought iron, and probably some may be found to be much better adapted for certain purposes than the alloys of carbon and iron; for instance, less liable to become crystalline by age, etc. 4. To alloy the pure iron with various amounts of carbon, and to add to these alloys such substances as are found in the commercial iron, so as to study their respective effects on the physical and chemical nature of cast iron, and more especially on their influence on the solvent power of iron for carbon. It is intended to investigate carefully the action of dilute and strong acids on the various alloys of iron and carbon, in order to see how far and under what conditions the carbon is evolved as carburized hydrogens. The experiments will be made upon a small scale, fusion taking place in one of Deville's oxyhydrogen furnaces, which gives an admirable means of experimenting with refractory metals. The pure iron will be partly prepared from the oxalate, and partly by the electrolytic process, and fused in lime crucibles.

PROFESSOR PLAYFAIR recently mentioned, before the British Association, as an object of peculiar interest, a furnace at the Alfreton Iron Works, which was forty or fifty years old, whereas the average duration of iron furnaces was only about four or five years. Recently a part of the wall was taken down for repairs, and he then had an opportunity of examining the whole of the furnace, and of ascertaining how it was that it had lasted so long. To his surprise he found it lined with plumbago three or four inches thick, not by the manufacturer, but by the operations of nature. This result he attributed to the carbon in the iron having been squeezed out; and the whole of the furnace was, probably, lined with plumbago.

LIGHTNING RODS.—The "lightning rod question" is exercising the minds of the readers of the *Scientific American*. "F. F. S." writes to that journal expressing his surprise that such an article as that written by "S. D. C." was allowed to appear in it, as it might "cause a great deal of mischief." "S. D. C." had said that lightning rods must not be insulated while "F. F. S." insists that one which was not insulated was worse than useless. The editor, in commenting upon the article of the latter, says that men "equally well experienced" hold diametrically opposite opinions on the question.

The discussion seems to us a singular one. Everybody knows that the electric fluid will take the shortest course, under given circumstances of conduction. Another equally well known fact is, that it will follow the best conductor. It follows that it is only necessary that the rod should be continuous. That its supports should be perfect insulators, is entirely unnecessary; it is only requisite that they should be worse conductors than the surface over which the rod passes. A block of wood is, in all ordinary cases, sufficient. In case the roof is a metallic one, safety would be secured by making the supports somewhat higher, in order to carry the rod at a greater distance from it. Not even glass supports of the ordinary height would be perfectly safe, under such circumstances. So large an expanse of conducting surface would be likely to interfere with its direct passage.

ALLOYS OF IRON.—Dr. F. Grace Calvert, in the course of a lecture on alloys, delivered before the Royal Society, says a few thousandths of carbon transform it into steel, and a few per cent. of the same element converts it into cast iron: a few thousandths of sulphur, or a few per cent. of silicon, renders iron "red-short"—that is to say, brittle at a red heat—while the same quantity of phosphorus makes it "cold-short," or brittle at natural temperature.

HARD IRON.—M. Gaudin has found that by adding to ordinary cast iron, in fusion, phosphate of iron and peroxyd of manganese, in certain proportions, he obtained a product of exceeding hardness. The resulting metal cannot be forged, but casts easily, and is, moreover, singularly sonorous; and he proposes it as a material for bells. He finds, also, that a still harder metal is produced by the addition of tungsten to ordinary cast iron. Crystals of it will cut glass as readily as the diamond.

THE *Chemical News* quotes from *Les Mondes* a simple mode of engraving, intended to replace wood-cutting: "The inventor starts with a smooth piece of chalk, on which he makes his drawing with gum-water, or something else that will harden on the chalk. He then, with a hard brush, scrubs out the soft part not drawn on, and so gets his design in relief. He subsequently hardens the plate by putting it in a bath of gelatine and then drying it."

DR. NEWBERRY, in an article on "Rock oils of Ohio," thinks he finds local proof of the distillation of the petroleum in the great bituminous springs of California from tertiary lignites, there being evidences of recent igneous action in the region. European geologists have attributed a similar origin to the petroleum of Italy.

AN ARTIFICIAL IVORY is made in France by M. Dupre, from a paste of papier-mache and gelatine. Billiard balls of this material can be thrown from the top of a house to the pavement without injury. "Parisian marble" is the name given to it.

THE action of sea-water on lead is nearly imperceptible. It could be used, therefore, to good advantage for preserving the keels of iron ships from corrosion. Its hardness could be increased by adding arsenic or antimony.

THERMO-ELECTRIC CURRENTS can be produced by percussion as well as by friction. This has been demonstrated by Prof. O. N. Rood, of Columbia College.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, October 27.

12 shs Ophir at 85 per foot, b 10.
12 shs Ophir at 87½ per foot, c.
12 shs Ophir at 88 per foot.
12 shs Ophir at 90 per foot s 3.
1 sh Savage at 1150 per foot, b 30.
1 sh Savage at 1120 per foot, s 30.
1 sh Savage at 1240 per foot, s 3.
2 shs Savage at 1240 per foot.
1 sh Savage at 1145 per foot, b 3.
1 sh Savage at 1200 per foot, s 30.
1 sh Savage at 1245 per foot.
3 shs Savage at 1240 per foot, s 30.
1 sh Savage at 1250 per foot.
1 sh Savage at 1245 per foot, s 30.
1 sh Savage at 1235 per foot.
4 shs Crown Point at 1010 per foot s 3.
4 shs Crown Point at 1030 per ft, b 30.
4 shs Crown Point at 1010 per foot.
1 sh Yellow Jacket at 635 per foot s 30.
2 shs Yellow Jacket at 630 per foot.
3 shs Yellow Jacket at 632½ per foot.
2 shs Yellow Jacket at 637½ per foot.
2 shs Yellow Jacket at 635 per foot c.
2 shs Yellow Jacket at 637 per foot.
1 sh Yellow Jacket at 645 per foot b 15.
1 sh Yellow Jacket at 645 per foot b 5.
1 sh Yellow Jacket at 643 per foot b 15.
13 shs Yellow Jacket at 632½ per foot, s 30.
2 shs Yellow Jacket at 637½ per ft s 3.
2 shs Yellow Jacket at 635 per foot.
1 sh Yellow Jacket at 640 per foot s 30.
1 sh Yellow Jacket at 630 per foot.
1 sh Chollar-Potosi at 100 per foot.
1 sh Chollar-Potosi at 100 per foot.
1 sh Chollar-Potosi at 103 per foot.
2 shs Chollar-Potosi at 107 per foot.
2 shs Chollar-Potosi at 106 per foot, b 3.
5 shs Belcher at 65 per foot.
1 sh Belcher at 65 per foot.
5 shs Imperial at 85 per share, b 30.
10 shs Overman at 8 per share c.
5 shs Overman at 8 per share.
Amount of sales.....\$ 43,896 00

Monday, October 29.

12 shs Ophir at 88 per foot s 3.
12 shs Ophir at 90 per foot c.
4 shs Crown Point at 1040 per foot, b 30.
4 shs Crown Point at 1040 per foot, b 30.
1 sh Chollar-Potosi at 106 per foot.
2 shs Chollar-Potosi at 110 per foot.
1 sh Chollar-Potosi at 113 per foot, s 3.
3 shs Chollar-Potosi at 115 per foot.
5 shs Chollar-Potosi at 117½ per foot, b 15.
5 shs Chollar-Potosi at 115 per foot, b 5.
1 sh Yellow Jacket at 655 per foot, s 30.
1 sh Yellow Jacket at 650 per foot c.
2 shs Yellow Jacket at 670 per foot c 3.
1 sh Yellow Jacket at 671 per foot.
1 sh Yellow Jacket at 670 per foot b 3.
1 sh Yellow Jacket at 670 per foot.
1 sh Yellow Jacket at 675 per foot, b 30.
10 shs Overman at 10 per share s 3.
20 shs Overman at 11 per share.
10 shs Overman at 11 per share, s 3.
20 shs Overman at 12 per share.
15 shs Overman at 11½ per share, b 3.
5 shs Overman at 12 per share b 30.
25 shs Overman at 11½ per share.
15 shs Overman at 11½ per share, b 10.
10 shs Confidence at 52 per share.
5 shs Confidence at 66 per share, s 3.
5 shs Confidence at 68 per share, s 3.
5 shs Bullion at 14 per share.
5 shs Bullion at 12½ per share.
50 shs Sierra Nevada at 1 per share.
2 shs Imperial at 85 per share.
5 shs Imperial at 87½ per share.

AFTERNOON SESSION.

1 sh Savage at 1235½ per foot.
20 shs Dancy at 3½ per share.
8 shs Gould & Curry at 430 per foot.
4 shs Gould & Curry at 440 per foot.
4 shs Gould & Curry at 450 per foot, b 3.
4 shs Gould & Curry at 450 per foot, b 3.
4 shs Gould & Curry at 460 per foot.
4 shs Crown Point at 1070 per foot.
4 shs Crown Point at 1060 per foot s 3.
4 shs Crown Point at 1060 per foot.
1 sh Yellow Jacket at 655 per foot.
1 sh Yellow Jacket at 660 per foot, s 30.
1 sh Yellow Jacket at 660 per foot.
5 shs Overman at 11½ per share, s 3.
10 shs Overman at 12 per share.
5 shs Overman at 12½ per share b 4.
20 shs Overman at 12 per share, s 3.
5 shs Overman at 12½ per share, b 3.
15 shs Bullion at 14 per share b 3.
20 shs Bullion at 13½ per share.

Amount of sales.....\$ 24,568 00

Tuesday, October 30.

60 shs Ophir at 90 per foot.
24 shs Ophir at 90 per foot, s 30.
12 shs Ophir at 92½ per foot.
12 shs Ophir at 92½ per foot s 3.
4 shs Ophir at 95 per foot, b 3.
12 shs Ophir at 95 per foot, s 3.
12 shs Ophir at 97½ per foot.
12 shs Ophir at 96 per foot, s 3.
4 shs Crown Point at 1070 per foot.
8 shs Crown Point at 1075 per foot b 30.
1 sh Yellow Jacket at 655 per foot.
1 sh Yellow Jacket at 655 per ft, s 30.
1 sh Yellow Jacket at 657½ per foot b 3.
2 shs Chollar-Potosi at 111 per foot.
9 shs Empire M & M Co. at 97½ per sh.
10 shs Imperial at 90 per share.
5 shs Imperial at 93 per share, b 30.
5 shs Imperial at 92 per share, b 30.
5 shs Imperial at 90 per share, s 30.
23 shs Sierra Nevada at 1 per share.
5 shs Sierra Nevada at 1½ per share.
15 shs Sierra Nevada at 1½ per share.
5 shs Overman at 12 per share, s 3.
10 shs Overman at 12½ per share, b 10.
15 shs Overman at 12½ per share.
10 shs Overman at 13 per share.
10 shs Overman at 11 per share, c.
15 shs Bullion, at 12½ per share, s 10.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, November 3d, 1866.

The Money Market may be said to have become a shade easier since the departure of the last Panama steamer. The demand, however, is still beyond the supply, and rates in Bank continue to rule at 1½@1½ cent. per month. The line of transactions in mortgage loans is at present very large—far in excess of available funds applicable to this purpose in our local Savings Banks. We learn of loans being readily effected in the latter institutions at 1½ cent. per month, and even higher rates are mentioned. The movement of coin to and from the interior has been as follows during the first nine months of this year as compared with the same period in 1865:

	1866.	1865.
Coin received from the Interior.....	\$4,119,538	\$3,763,389
Coin remitted to the Interior.....	6,454,207	8,725,858

Added to interior circulation.....\$2,334,669 \$4,962,469

The Internal Revenue receipts at the Collector's office in this city for the month of October aggregate \$1,138,071.23. The largest daily collection was made on October 30th, amounting to \$133,032.80.

The coinage at the U. S. Branch Mint in this city, during the month of October, has been \$2,210,000 in gold, and \$102,000 in silver—total, \$2,312,000.

City Stocks remain quiet, with few sales in the Board. We note transactions in California Steam Navigation Co. at 68 cent., and Spring Valley Water Co. at 60½@61 cent. The latter company have declared the usual dividend on their capital stock, payable on the 10th inst. The 21st installment of \$10 per share of the South San Francisco Homestead and Railroad Association is now payable. S. F. & San Jose Railroad sold at 65 cent., and San Francisco Gas at 65 cent.

Legal Tender Notes sold during the week in the Board at 71½c, and 71½c seller 90 and 30; at the close we quote them at 70½c bid, and 71½c asked. Our latest telegraphic advices from the East, Nov. 1st, quote gold at 147½.

The Mining Share Market acquired a degree of firmness during the past week little looked for some time ago, and almost without exception shares were sold at a considerable advance. This appreciation, however, occurs to a more or less extent as the monthly period for the declaration of dividends approaches; still there is a more potent cause than this in explanation of the present rise. It is found that the lower levels on the Comstock lode have not yet become exhausted, and that recently some very satisfactory developments have been made at greater depths than hitherto attained. In this connection we might mention that late discoveries in the Savage mine fully substantiate the existence of valuable deposits of ore at points not yet reached by the deepest shafts.

Hule & Norcross still remains out of the market—continuing in firm hands. We quote it at \$1,800 bid, and \$1,900 asked. In sinking from the 700 to the 780-foot level a good body of ore, it is said, has been encountered at a point 27 feet below the 700-foot level. Up to the 29th inst., 2,531 tons of ore have been reduced, 65 per cent. of the assay value of which placed at the company's credit \$146,504. This gives an average yield of nearly \$58 per ton.

Savage has materially improved since our last reference, opening at \$1,250, buyer 30, gradually advancing to \$1,305, seller 3, then selling at a still further advance at \$1,400, buyer 3, and closing at \$1,385. During the week ending Oct. 27th, 1,617 tons of ore were extracted, 1,302 tons carried to the mills, and 690 tons left on hand at the mine. The assay value of bullion from the number of tons mined as above is given at \$76,545, which is an average of more than \$47 per ton. We have interesting information in regard to the developments of this mine since our last issue. In the sixth station, winze No. 2, has been

prosecuted to a depth of 28 feet, and it is said that ore averaging \$70 per ton has been found. On the upper station, south mine, the ore seam has widened to some 30 feet, and in the lower station it is about 18 feet in width, showing ore of good average quality. On the 7th station, from the old shaft, the main body of ore has been reached, which also exhibits fine ore, and between this point and the sixth level it is said 100 feet of ore have been developed. At the 2d station, Curtis shaft, 300 feet distant from the point at which the main body of ore was reached in the 7th level, the southeastern end of the same deposit, was cut during the past week. These developments, at a depth of 666 feet below the croppings, present a very favorable future for this company. It is estimated that the recent discoveries alone will supply their present reduction capacity for two years. They now employ seven mills which reduce about 200 tons of ore per day.

Crown Point advanced from previously quoted figures, selling at \$1,010, improving to \$1,070@1,060, and at the close \$1,080 is asked. The inclines continue in good ore, and the drift from the 400-foot station, it is thought, will soon reach the lode. During the week ending the 27th inst., 736 tons of ore were taken from the mine.

Yellow Jacket sold at \$630@639, advanced to \$675, buyer 30, receded to \$645, then rallied to \$665, and closed yesterday at \$660. We have no information from this mine of a later date than that given in our last issue—the 20th inst., owing to certain delinquencies of officials in Nevada.

Gould & Curry improved from \$430 to \$460, then advanced to \$550, and at the close we quote it at \$460. We learn that a few feet were sold at higher figures on the street. The prospects of this company, it is said, are more encouraging at this period than for some time past.

Imperial steadily rose from \$85, buyer 30, to \$98, closing yesterday at \$100. The Imperial and Empire shaft is now down 655 feet, and is well timbered for a distance of 648 feet. This shaft was commenced some ten months ago, and has now been completed in all respects to a depth of 600 feet, but from this point downwards only three compartments will be constructed at present. This shaft, when completed, will afford hoisting facilities for all the Gold Hill mines. It is to be continued, we learn, to a depth of 1,200 feet, and to work at that point, a sufficient power of machinery is now being supplied. The haulage receipts of this company for the month of October, aggregate \$98,380.

Empire Mill and Mining Company sold early in the week at \$97.50, advanced to \$120, and our quotations yesterday are \$125 asked. With the exception of a brief stoppage for repairs to machinery, everything is progressing well at the mines of this company.

Chollar-Potosi opened at \$100, advanced to \$117.50, buyer 15, then sold at \$111@115, rallied to \$122, and closed yesterday at \$118, s. 3. During the week ending October 28th, 631 tons of ore were forwarded to custom mills. The sinking of the new shaft is still progressing, but, it is said, nothing encouraging had been reached at the above date. This company now employs 95 men.

Ophir sold at \$85, buyer 10, early in the week, improved to \$90@97.50, receded to \$96, and yesterday \$90 was bid. We learn of nothing encouraging from this mine at latest dates.

Confidence was dealt in at \$52@58, declined to \$51, advanced to \$55, and at the close we quote it at \$55 bid. The annual meeting of this company will be held on Friday, the 9th instant, at their office, No. 415 Montgomery street.

Belcher advanced from \$55 to \$60, and yesterday sold at \$59 per share.... Daney sold at \$3.50.... Sierra Nevada improved from \$1 to \$3.

Overman changed hands within a range of \$8@16.50, closing yesterday at \$16½. Over 1,000 shares were sold in the Board during the week.... Bullion opened at \$14, then sold at \$12.50, and at the close we quote it at \$14 asked.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$266,168.

5 shs Bullion at 12½ per share, s 30.
5 shs Spring Valley W. W. at 60½ per cent
5 shs Cal Steam Nav Co at 68 per cent.

AFTERNOON SESSION.

1 sh Savage at 1300 per foot s 30.
1 sh Savage at 1300 per foot, s 3.
1 sh Savage at 1305 per foot s 3.
2 shs Chollar-Potosi at 114 per foot.
5 shs Chollar-Potosi at 115 per foot b 15.
5 shs Chollar-Potosi at 117½ per foot b 15.
2 shs Chollar-Potosi at 118 per foot, b 5.
1 sh Yellow Jacket at 650 per ft, s 15.
7 shs Yellow Jacket at 650 per foot.
1 shs Yellow Jacket at 617½ per foot.
4 shs Yellow Jacket at 640 per foot.
6 shs Yellow Jacket at 645 per foot.
4 shs Gould & Curry at 550 per foot.
5 shs Overman at 13 per share.
25 shs Overman at 14 per share.
10 shs Overman at 14 per share h 5.
35 shs Overman at 13½ per share, s 30.
5 shs Overman at 13½ per share, s 10.
10 shs Overman at 14 per share.
50 shs Overman at 14 per share s 30.
5 shs Overman at 14½ per share
5 shs Overman at 14½ per share b 10.
10 shs Imperial at 92 per share.
1 shs Imperial at 95 per share.
5 shs Imperial at 94 per share.
5 shs Imperial at 94 per share, s 10.
5 shs Imperial at 94 per share, s 10.
10 shs Imperial at 95 per share, s 5.
4 shs Confidence at 51 per share.
40 shs Sierra Nevada at 1½ per share.

Amount of sales.....\$ 38,560 50

Wednesday, October 31.

1 sh Savage at 1325 per foot, s 30.
1 sh Savage at 1340 per foot, s 30.
1 sh Savage at 1355 per foot, s 30.
1 sh Savage at 1370 per foot.
1 sh Savage at 1330 per foot s 3.
2 shs Chollar-Potosi at 117 per foot, b 20.
1 sh Chollar-Potosi at 115 per foot s 20.
5 shs Chollar-Potosi at 120 per foot h 20.
3 shs Chollar-Potosi at 121 per foot.
1 sh Chollar-Potosi at 120 per foot b 3.
2 shs Chollar-Potosi at 119 per foot c.
2 shs Yellow Jacket at 630 per foot s 30.
1 sh Yellow Jacket 630 per foot c.

1 sh Yellow Jacket at 640 per ft s 30.
60 shs Ophir at 95 per foot.
12 shs Ophir at 95 per foot, s 3.
45 shs Ophir at 97 per foot.
60 shs Ophir at 100 per foot, b 30.
2 shs Ophir at 98 per foot s 3.

10 shs Overman at 17 per share.
10 shs Overman at 16 per share, b 30.
5 shs Overman at 15 per share s 30.
5 shs Overman at 16½ per share, b 30.
15 shs Overman at 16½ per share, b 3.
15 shs Overman at 17 per share b 30.
15 shs Overman at 16½ per share.
5 shs Overman at 16 per share b 3.
2 shs Imperial at 95 per share, b 3.
5 shs Imperial at 95 per share s 3.
2 shs Imperial at 96 per share.
10 shs Imperial at 97½ per share, b 10.
5 shs Imperial at 97½ per share.
40 shs Sierra Nevada at 1½ per share.

AFTERNOON SESSION.

12 shs Ophir at 100 per foot, b 30.
24 shs Ophir at 97 per foot, b 3.
95 shs Ophir at 97 per foot.
12 shs Ophir at 95 per foot s 30.
12 shs Ophir at 96 per foot.
2 shs Savage at 1370@1400 per foot, b 3.
4 shs Savage at 1370@1390 per foot, s 30.
3 shs Savage at 1380 per foot.
3 shs Savage at 1370 per foot.
3 shs Chollar-Potosi at 121 per foot.
2 shs Chollar-Potosi at 122 per foot.
1 sh Chollar-Potosi at 121 per foot, s 3.
5 shs Chollar-Potosi at 120 per foot, s 3.
1 sh Yellow Jacket at 657½ per foot.
6 shs Yellow Jacket at 660 per foot.
1 sh Yellow Jacket at 660 per foot s 30.
2 shs Yellow Jacket at 675 per foot h 30.
1 sh Yellow Jacket at 665 per foot s 10.
2 shs Yellow Jacket at 670 per foot b 30.
1 sh Yellow Jacket at 665 per foot.
10 shs Imperial at 97½ per share, s 3.
2 shs Imperial at 98 per share.
5 shs Imperial at 100 per share, b 30.
1 sh Imperial at 95 per share.
15 shs Imperial at 94 per share, s 3.
20 shs Overman at 16½ per foot.
35 shs Overman at 16 per share.
5 shs Overman at 16 per share b 60.
20 shs Overman at 15½ per share, s 3.

5 shs Overman at 15½ per share.
30 shs Sierra Nevada at 1 per share.
1 shs Confidence at 51 per share.
100 shs Spring Valley Water at 61 per ct.

Amount of sales.....\$ 63,164 00

Thursday, November 1.

3 shs Yellow Jacket at 651@655 per foot.
6 shs Yellow Jacket at 647@652½, s 30.
1 sh Yellow Jacket at 665 per foot h 30.
4 shs Yellow Jacket at 652½ per foot s 3.
1 sh Yellow Jacket at 655 per foot b 5.
1 sh Yellow Jacket at 665 per foot b 30.
2 shs Savage at 1330 per foot, s 30.
8 shs Crown Point at 1060 per foot, s 3.
7 shs Chollar-Potosi at 110½ per ft.
5 shs Chollar-Potosi at 112 per foot, s 30.
1 sh Belcher at 60 per foot.
12 shs Ophir at 90 per foot, s 30.
15 shs Overman at 13½@16 per share.
50 shs Overman at 14½ per share h 30.
30 shs Overman at 14½@16 per share, s 30.
5 shs Overman at 14½ per foot, b 10.
65 shs Overman at 14 per share, s 3.
5 shs Sierra Nevada at 3½ per share.
5 shs Bullion at 12½ per share.
5 shs Confidence at 55 per share.
1 sh Empire M & M Co. at 105 per sh s 30.
2 shs Empire M & M Co. at 120 per share.
\$3,000 Legal Tender Notes at 71½c s 30.

AFTERNOON SESSION.

5 shs Yellow Jacket at 650@655 per foot s 3.
1 sh Yellow Jacket at 655 per foot, b 2.
1 sh Yellow Jacket at 662½ per foot.
1 sh Yellow Jacket at 655 per ft h 5.
11 shs Chollar-Potosi at 118½@119 per foot.
1 sh Chollar-Potosi at 100 per foot s 10.
1 sh Belcher at 60 per foot.
1 sh Savage at 1345 per foot, s 30.
1 sh Savage at 1350 per foot.
4 shs Crown Point at 1060 per foot, s 30.
15 shs Overman at 13½ per share.
10 shs Overman at 14 per share, s 10.
10 shs Overman at 13½ per share, b 30.
9 shs Overman at 14 per share, s 3.
5 shs Overman at 14½ per share.
10 shs Overman at 15 per share, s 3.
15 shs Overman at 16½ per share.
10 shs Overman at 15 per share, s 30.
10 shs Overman at 15½ per foot, b 10.

10 shs Overman at 15½ per share.
3 shs Imperial at 91 per share.
1 sh Imperial at 90 per share.
3 shs Imperial at 92 per share.
2 shs Imperial at 93 per share.

Amount of sales.....\$ 57,475 50

Friday, November 2.

3 shs Yellow Jacket at 640@645 per foot.
1 sh Yellow Jacket at 640 per foot, s 30.
1 sh Yellow Jacket at 650 per foot, b 3.
3 shs Yellow Jacket at 650 per foot.
2 shs Yellow Jacket at 640 per foot s 3.
12 shs Ophir at 90 per foot, s 30.
1 sh Ophir at 90 per foot, s 6.
24 shs Ophir at 90 per foot s 3.
12 shs Ophir at 90 per foot, s 10.
12 shs Ophir at 90 per foot.
5 shs Chollar-Potosi at 107@108 per ft s 3.
10 shs Chollar-Potosi at 110@111 per ft, b 30.
11 shs Chollar-Potosi at 100 per foot, s 3.
2 shs Savage at 1350@1360 per foot, s 30.
1 sh Savage at 135 per foot, s 3.
2 shs Savage at 1370 per foot.
2 shs Savage at 1370 per foot, s 30.
10 shs Overman at 15 per share.
20 shs Overman at 16 per share, s 3.
20 shs Overman at 15½ per share, s 30.
10 shs Overman at 16 per share, b 10.
20 shs Overman at 15½ per share c.
5 shs Overman at 16 per share, s 30.
15 shs Overman at 16½ per share, h 30.
3 shs Sierra Nevada at 3½ per share.
5 shs Imperial at 94 per share.
5 shs Imperial at 96 per share, s 3.
5 shs Imperial at 97½ per share c.
10 shs Imperial at 95 per share, b 10.
14 shs Imperial at 95 per share.
20 shs Imperial at 96@98½ per share, s 30.
10 shs Imperial at 100 per sh, s 10.
10 shs Imperial at 102 per share, b 30.
3 shs Imperial at 98 per share, s 3.
10 shs S. F. & San Jose R. R. Co. at 65 p c.
10 shs S. F. Gas Co at 65 per cent

3 shs Yellow Jacket at 655@672½ per foot.
5 shs Yellow Jacket at 655@650 per foot.
5 shs Yellow Jacket at 655@650 per ft s 30.
1 sh Yellow Jacket at 660 per foot.
2 sh Savage at 1370 per foot, s 30.
2 shs Savage at 1390 per foot.
1 sh Savage at 1395 per foot.
3 shs Chollar-Potosi at 115 per ft, s 3.
7 shs Chollar-Potosi at 117@113 per foot.
15 shs Chollar-Potosi at 120@122 per ft h 30.
5 shs Chollar-Potosi at 118 per foot, s 30.
2 shs Chollar-Potosi at 118 per foot, s 3.
5 shs Belcher at 59 per foot.
15 shs Overman at 15½@16½ per share s 5.
5 shs Overman at 15 per share, s 30.
5 shs Overman at 16 per share, b 30.
10 shs

PITTSBURGH AND YUBA RIVER MINING COMPANY.—We have recently received the prospectus and hy-laws of this company. The mines of this corporation are at Smartsville, adjoining the famous Blue Gravel Company's claims. The company was incorporated by special act of the Pennsylvania Legislature, approved April 11, 1866. Its capital stock has been increased to \$500,000, "of which \$500,000 has been contributed and certificates of stock issued therefor." The prospectus speaks of the claims as "gulch deposits," i. e. gravel diggings. Following is a list of officers of the company: President, Geo. W. Cass; Treasurer, Wm. K. Hurt; Secretary, James Finlay; Board of Managers, Wm. Frew, W. W. Martin, J. H. Jones, Thomas Howard, C. W. Batchelor, M. K. Moorhead; General Manager, John Brickell, Smartsville, California.

SKATING CARS.—Some of our journals have been publishing in full a long account from the London Herald, of Monsieur Girard's "hydraulic" railroad. They say it has "attracted the attention of the scientific world," and that it is strange that such an extraordinary effort of genius has been suffered for four years to remain unappreciated. We have only to say, that this very fact is one of the most convincing proofs of its worthlessness. If anything were wanting to "cap the climax" of its absurdity, it may be found in the method of propulsion proposed by monsieur. We can go "aerial navigation" better than this.

HAT VENTILATOR.—Charles H. Coffin, of this city, has invented a new ventilator for hats, which has these two advantages: First, the outer plate is of silver, being therefore not liable to tarnish; and, second, it can be readily detached from the hat and applied to a new one.

The Marysville Appeal of Oct. 27th, says: Prof. Blake, of San Francisco, has recently visited the Brown's Valley mines, and examined the Pennsylvania and Jefferson claims. He expressed himself as most favorably impressed with the probable future of the mines of that district.

M. BOUTET, a French engineer, has suggested still another plan for connecting France with England. It is a bridge 22 miles long and 214 feet wide, with openings for ships and foot-paths for passengers on each side. The cost is estimated at eighty millions of dollars.

BELLAMI COAL.—We wish to call the attention of parties in the interior to the advertisement of this coal, which appears this week. It is a superior article of English smiths' coal, and is being used by many of the blacksmiths and some of the foundrymen of this city. It costs, we understand, only about one-half the price of Cumberland coal.

San Francisco Prices of Copper Ores.

SAN FRANCISCO, NOV. 2, 1866.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent:

Per ton.	Per cent.	Per ton.	Per cent.
12	20	22	22
13	23	23	23
14	25	24	24
15	27	25	25
16	29	26	26
17	31	27	27
18	33	28	28
19	35	29	29
20	37	30	30
21	39	31	31
22	41	32	32
23	43	33	33
24	45	34	34
25	47	35	35
26	49	36	36
27	51	37	37
28	53	38	38
29	55	39	39
30	57	40	40
31	59	41	41
32	61	42	42
33	63	43	43
34	65	44	44
35	67	45	45
36	69	46	46
37	71	47	47
38	73	48	48
39	75	49	49
40	77	50	50
41	79	51	51
42	81	52	52
43	83	53	53
44	85	54	54
45	87	55	55
46	89	56	56
47	91	57	57
48	93	58	58
49	95	59	59
50	97	60	60

These prices, we believe, will be found substantially correct, and can be realized in this date.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & CO., Patent Agents.
San Francisco, May 1st, 1866.

MINING SHAREHOLDERS' DIRECTORY

[Compiled for every mine, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME	AMT. OF ASSESSMENT	DAY DELINQUENT	DAY OF SALE
Artillery M. Co. \$1.00	Nov 4-Dec 27	Dec 4-Dec 27	Dec 27
Aldrich M. Co. \$1.00	Nov 4-Dec 15	Nov 4-Dec 15	Dec 15
Altaville Q. M. Co. \$50	Nov 5-Nov 22	Nov 5-Nov 22	Nov 22
Belcher Co. \$33	Nov 17-Dec 18	Nov 17-Dec 18	Dec 18
Belcher M. Co. \$11	Nov 17-Dec 18	Nov 17-Dec 18	Dec 18
Chilpanoma M. Co. \$5	Dec 1-Dec 17	Dec 1-Dec 17	Dec 17
Cosala S. M. Co. \$1	Oct 31-Nov 19	Oct 31-Nov 19	Nov 19
Empire M. & M. Co. \$1	Payable June 15	Payable June 15	June 15
Confidence S. M. Co. Storey Co. Nev. div. 10 p. c.	Pay July 9	Pay July 9	July 9
Confidence S. M. Co.	Annual Meeting Nov 9	Annual Meeting Nov 9	Nov 9
Dancy G. & S. M. Co. \$75	Nov 2-Dec 3	Nov 2-Dec 3	Dec 3
Ethan Allen G. & S. M. Co. \$50	Nov 6-Nov 27	Nov 6-Nov 27	Nov 27
Eureka, San Juan, dividend \$1.50 per sh.	Pay July 9	Pay July 9	July 9
Empire M. & M. Co. \$1	Payable Oct 1	Payable Oct 1	Oct 1
Enterprise G. & S. M. Co. \$75	Nov 19-Dec 10	Nov 19-Dec 10	Dec 10
Great Central M. Co. \$1	Nov 15-Dec 3	Nov 15-Dec 3	Dec 3
Geo. Washington G. & S. M. Co. \$2.50	Oct 20-Nov 5	Oct 20-Nov 5	Nov 5
Gould & Curry, dividend \$50 ft.	Payable June 8	Payable June 8	June 8
Independent M. Co. M. Co. Dividend	Payable Sept 1	Payable Sept 1	Sept 1
Humboldt G. & S. M. Co. \$2	Nov 1-Nov 27	Nov 1-Nov 27	Nov 27
Humboldt G. & S. M. Co. \$2	Nov 1-Nov 27	Nov 1-Nov 27	Nov 27
Hale & Norcross, dividend	Payable Oct 15	Payable Oct 15	Oct 15
I. N. L. G. & S. M. Co. \$1.50	Oct 30-Nov 20	Oct 30-Nov 20	Nov 20
Imperial G. & S. M. Co. \$1	Payable Sept 15	Payable Sept 15	Sept 15
Jefferson G. & S. M. Co. \$10	Payable Aug 23	Payable Aug 23	Aug 23
Keystone M. Co. Calaveras Co. \$5	Oct 22-Nov 19	Oct 22-Nov 19	Nov 19
Kearney M. Co. \$1	Annual Meeting Nov 13	Annual Meeting Nov 13	Nov 13
Kohler Bros. S. M. Co. \$1	Dec 3-Dec 20	Dec 3-Dec 20	Dec 20
Lady Bell C. M. Co. \$10	Nov 19-Dec 6	Nov 19-Dec 6	Dec 6
Lady Bell C. M. Co. \$10	Nov 19-Dec 6	Nov 19-Dec 6	Dec 6
Lady Bell C. M. Co. \$10	Nov 19-Dec 6	Nov 19-Dec 6	Dec 6
London Q. M. Co. \$30	Dec 3-Dec 26	Dec 3-Dec 26	Dec 26
Mount Tenabo S. M. Co.	Annual Meeting Nov 22	Annual Meeting Nov 22	Nov 22
Nouparell G. & S. M. Co. \$1	Nov 5-Nov 26	Nov 5-Nov 26	Nov 26
Nuestra Sra de Guadalupe S. M. Co. \$1	Nov 3-Nov 27	Nov 3-Nov 27	Nov 27
North S. F. H. & R. Asso. \$12.50	Nov 12-Dec 12	Nov 12-Dec 12	Dec 12
North S. F. H. & R. Asso. \$12.50	Nov 12-Dec 12	Nov 12-Dec 12	Dec 12
Ophir S. M. Co. Nevada, \$5	Nov 19-Dec 10	Nov 19-Dec 10	Dec 10
Ophir of the Colorado S. M. Co.	Annual Meeting Nov 19	Annual Meeting Nov 19	Nov 19
Overman S. M. Co. \$5	Nov 17-Dec 4	Nov 17-Dec 4	Dec 4
Providencia G. & S. M. Co. \$2	Nov 21-Dec 6	Nov 21-Dec 6	Dec 6
Patrocina and Dolores S. M. Co. Mex. \$1.25	Nov 17-Dec 3	Nov 17-Dec 3	Dec 3
Real Estate Mining M. Co. \$1	Nov 27-Dec 15	Nov 27-Dec 15	Dec 15
Rope Gravel M. Co. \$1	Nov 5-Nov 21	Nov 5-Nov 21	Nov 21
Salamanca O. & S. M. Co. \$20	Nov 24-Dec 19	Nov 24-Dec 19	Dec 19
San Rafael S. M. Co. Mex. \$1	Oct 19-Nov 21	Oct 19-Nov 21	Nov 21
Santa Cruz Petrol Oil Works Co. \$50	Nov 6-Nov 27	Nov 6-Nov 27	Nov 27
Sierra Nevada S. M. Co. \$2.50	Nov 3-Nov 27	Nov 3-Nov 27	Nov 27
Santiago M. Co. \$10	Payable Oct 6	Payable Oct 6	Oct 6
Savage S. M. Co. dividend	Payable Oct 9	Payable Oct 9	Oct 9
Sumner G. & S. M. Co. \$5	Dec 10-Jan 5	Dec 10-Jan 5	Jan 5
Tuolumne M. G. & S. M. Co.	Meeting Nov 5	Meeting Nov 5	Nov 5
Tuolumne G. & S. M. Co. \$1	Nov 15-Dec 6	Nov 15-Dec 6	Dec 6
Yellow Jacket S. M. Co. div. \$50 sh.	Payable Oct 15	Payable Oct 15	Oct 15

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, November 2, 1866.		
	Bid.	Askd.
United States 7-10ths.	74 1/2	75
Gov. Legal Tender Notes.	70 1/2	71 1/2
State Bonds, 7 1/2 cent.	81 1/2	82
San Francisco 10 cent.	100	105
San Francisco Bonds, 1855, 6 cent.	70	75
San Francisco Bonds, 1855, 6 cent.	63	65
San Francisco Bonds, 1855, 6 cent.	69	70
Sacramento City Bonds, 6 cent.	19	21
Sacramento County Bonds, 6 cent.	61	65
Stockton Bonds, 10 cent.	65	65
Yuba County Bonds, 10 cent.	80	85
Butte County Bonds, 10 cent.	70	80
California Navigation Co.	68	69
State Telegraph Stock.	32	35
Sacramento Gas Co.	—	75
Spring Valley Water Co.	60 1/2	—
RAILROADS.		
Sacramento Valley Railroad.	—	—
Omnibus Railroad.	55	60
Central Railroad Co.	—	65
North Beach and Mission.	45	46
MINING STOCKS.		
Alpha.	—	70
Bullion, G. H.	12 1/2	14
Belcher.	52	50
Confidence.	55	57 1/2
Ophir.	90	92
Gould & Curry.	450	460
Empire M. & M. Co.	115	125
Savage.	1380	1375
Chollar-Potosi.	110	110
Hale & Norcross.	1800	—
Yellow Jacket.	645	650
Overman.	153 1/2	16 1/2
Crown Point.	1060	1060
Imperial.	96	99

San Francisco Market Rates.

WHOLESALE PRICES.	
FRIDAY, NOV. 2, 1866.	
Flour, extra, 48 lbs.	6 00 @ 6 50
Do Superfine.	5 50 @ 6 75
Coro Meal, 40 lbs.	2 00 @ 2 50
Wheat, 40 lbs.	1 75 @ 2 00
Oats, 40 lbs.	1 45 @ 1 55
Barley, 40 lbs.	85 @ 1 00
Peas, 40 lbs.	2 50 @ 4 00
Potatoes, 40 lbs.	75 @ 1 00
Hay, 40 lbs.	7 00 @ 14 00
Live Oak Wood, cord	6 00 @ 10 00
Beef, on foot, 1/2 lb.	6 @ 10
Beef, extra, dressed, 1/2 lb.	10 @ 12 1/2
Sheep, on foot, 1/2 lb.	4 00 @ 5 00
Hogs, on foot, 1/2 lb.	6 @ 9
Hogs, dressed, 1/2 lb.	11 @ 12
GROCERIES, ETC.	
Sugar, crushed, 1/2 lb.	12 1/2 @ 13
Do China.	10 @ 11
Coffee, Costa Rica, 1/2 lb.	24 @ 25
Do Rio.	24 @ 25
Tea, Japan, 1/2 lb.	60 @ 90
Do Green.	60 @ 1 25
Hawaiian Rice, 1/2 lb.	9 @ 10
China do.	6 1/2 @ 7 1/2
Coal Oil, gal.	65 @ 70
Candles, 1/2 lb.	35 @ 40
Butter, 1/2 lb.	35 @ 40
Isthmus do.	30 @ 40
Cheese, California, 1/2 lb.	10 @ 17
Eggs, doz.	50 @ 60
Lard, 1/2 lb.	17 @ 18
Ham and Bacon, 1/2 lb.	16 @ 20
Shoulders.	12 1/2 @ 15

Retail Prices.	
Butter, California fresh 1/2 lb.	45 @ 75
do pickled 1/2 lb.	38 @ 50
do Oregon.	35 @ 40
do New York, 1/2 lb.	40 @ 60
Cheese, 1/2 lb.	15 @ 25
Honey, 1/2 lb.	25 @ 35
Eggs, doz.	60 @ 65
Lard, 1/2 lb.	22 1/2 @ 25
Ham and Bacon, 1/2 lb.	22 1/2 @ 25
Granberries, gal.	75 @ 1 00

Potatoes, old, 1/2 lb.	— @ —
do New 1/2 lb.	1 1/2 @ 1 1/2
Tomatoes, 1/2 lb.	3 @ 5
Cucumbers, 1/2 lb.	3 @ 5
Apples, No. 1, 1/2 lb.	3 @ 5
Pears, table 1/2 lb.	8 @ 10
Plums, dried, 1/2 lb.	20 @ 22
Peaches, dried, 1/2 lb.	15 @ 15
Oranges, 1/2 doz.	60 @ 60
Lemons, 1/2 doz.	70 @ 70
Chickens, adze.	57 @ 1 12
Soap—Pule & C. O.	8 @ 10
Castile.	14 @ 15

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.)

FRIDAY, NOV. 2, 1866.	
Iron—Duty: Pig \$9 1/2 ton; Railroad 60c 1/2 ton; Bar 10 1/2 1/2 1/2 ton; Sheet, polished 80c 1/2 ton; common, 1 1/2 1/2 1/2 ton; Plate 1 1/2 1/2 1/2 ton; Pipe, 1 1/2 1/2 1/2 ton; Galvanized 2 1/2 1/2 1/2 ton.	
Scotch and English Pig 1/2 ton.	36 @ 37
White Pig 1/2 ton.	50 @ 55
Refined Bar, good assortment, 1/2 lb.	3 @ 3
Refined Bar, good assortment, 1/2 lb.	3 1/2 @ 3 1/2
Sheet No. 1 to 4.	4 @ 4
Sheet No. 5 to 9.	4 1/2 @ 6
Sheet No. 10 to 12.	4 @ 4
Sheet No. 14 to 19.	5 @ 5
Sheet No. 24 to 27.	5 1/2 @ 5 1/2
Copper—Duty: Sheathing 3 1/2 1/2 1/2 lb; Pig & Bar 2 1/2 1/2 1/2 lb.	
Sheathing 1/2 lb.	34 @ 36
Sheathing.	20 @ 20
Sheathing, Yellow.	27 @ 28
Sheathing, Old Yellow.	13 @ 14
Bolts.	13 @ 16
Composition Nails.	30 @ 32
Tin Plates—Duty: 2 1/2 1/2 1/2 lb.	
Plates, Charcoal, 1 1/2 box.	15 @ 15
Plates, 1 C Charcoal.	13 @ 13
Roofing Plates.	11 @ 11
Banca Tin Slabs, 1/2 lb.	25 @ 25
Steel—English Cast Steel, 1/2 lb.	12 1/2 @ 13
QUICKSILVER—Per lb.	— @ 60
For export.	— @ 60
Zinc—Sheets 1/2 lb.	— @ 11
LEAD—Pig 1/2 lb.	8 @ 9
Sheet.	10 @ 10
Pipe.	10 @ 10
Bar.	10 @ 10
BORAX—California, 1/2 lb.	20 @ 25

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Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the Silver Mountain *Bulletin* of October 27th: The Mary Francis claim, which is supposed to be a northern extension of the George Washington, is being prosecuted with vigor by the owner, A. Carmichael. The tunnel commences near the head of Silver Creek, near Van Horn's mill, and will be one of the easiest claims to work cheaply in the district, as a water mill can be erected near the mouth of the tunnel, and the ores from the mine can be dumped from the car into the mill. James White has struck the ledge in the Extension, which is supposed to be a northern extension of Buckeye No. 1. The ores now being taken out exhibit ruby silver.

Brig. Gen. James F. Hall is daily expected in town, to take charge of the affairs of the Active company. It is expected that the mine will take a fresh start under the new management. The most prominent tunnel owned by this company is on the Constitution ledge, which, at this opening made upon it on Monitor Creek, reveals a ledge full twenty-five feet in width, containing the precious metals at the surface in sufficient quantities to warrant sinking, with the almost certain indication of striking an abundance of pay ore within one hundred feet of the surface.

The report of the committee to examine the books of the I. X. L. Co. is to the effect that the business has been conducted in a "culpably loose and careless manner." They recommend the removal of the office to Silver Mountain.

The mill of the Washington Co. is nearly completed, awaiting only the belting, water pipes and quicksilver. The ores from the Morning Star mine are to be worked at this mill, as well as those from the George Washington.

From the *Alpine Miner*, Oct. 27th: The American Tunnel and Silver Mining Company, having by a series of explorations determined the size, course and dip of their ledge, have now commenced a permanent working shaft about 100 feet east of the old works, which is expected to tap the ledge at a perpendicular depth of about 100 feet. It will be a double shaft, plank and timbered in the best manner, each compartment to be 4x4 in the clear. The engine, boiler and hoisting works are expected to arrive by the next steamer from New York. In the Washington, the work at the mill is up to time, and as we learn from good authority, if the balance of the supplies were here the works could be moving within five days.

Amador County—

From the *Ledger* of October 27th: At Enterprise, on Indian Creek, there are a number of claims which bid fair to turn out well when developed; among them are the following: The Pigeon Creek, owned by Aiken, Hinkson & Co. Depth of shaft 100 feet, and a fine foot ledge. The Phelps, owned by Phelps, thirty foot shaft and fair sized vein, and fine looking ore. The Enterprise, Rowley & Co., sixty-five foot shaft, six foot ledge, with fair prospects. The Spanish, a mine worked several years ago by Mexicans, is owned by Wilson, Kaul & Worden. A shaft was lately sunk to a depth of sixty-five feet, and we have seen but little better ore in the county. A fine specimen of it now before us is literally covered with gold, and is as fair a sample of the black gouge vein as can be found in the Eureka or Plymouth. The Jefferson has lately been opened at the head of Indian Creek. The ledge is four feet in width, and prospects fair for a first class mine. The Great Eastern has a twelve foot ledge, and shaft twenty-five feet. It is supposed to be on the Coney range, and prospects finely. The Greyhound, Gallner & George, is a fine ledge, with a splendid black gouge, and has turned out as handsome ribbon rock, well impregnated with auriferous sulphurets, as can be found in a day's ride. The ledge is six feet in width, and a shaft fifty feet in depth has been sunk on it. The Richmond company's mine is now yielding very good ore. The last run paid ten dollars per ton. The ledge on which the mine is located is the first west of that known as the Big Boulder, in the syenite belt. Their mill, the only one in that locality, is a fine 10-stamp one, driven by a hydraulic turbine wheel.

Meador & Co. having purchased the sulphuret mill formerly owned by S. S. Mannon, are now improving it, and will be working their sulphurets, of which they have a large amount, in a few weeks. The shaft on Wm. Roberts' claim, in Walker's field, half a mile north of Jackson, is now forty feet in depth, and the vein five feet wide. He is desirous of making arrangements with some party for its development.

Calaveras County—

The San Andreas *Register* has the follow-

ing in regard to the mining prospects in this county: We have in the southern portions, at Copperopolis, the rich copper mines, giving employment to 300 or 400 men. At Angels, six or eight miles east of Copperopolis, are extensive quartz mines, which are beginning to pay dividends, under the impetus given to the work by capitalists. There is a large section of country, extending four or five miles around Angel's, filled with gold-bearing quartz, waiting only capital to develop. In the vicinity of Murphy's and El Dorado, some six miles farther east, are some excellent quartz leads, known to be rich mineral. At West Point, situated at the extreme northeast portion of the county, are located some of the best paying quartz claims in this section. The rock at West Point is easily obtained, requiring less capital to open and work the mines than in other sections of the county. The returns being quick, and expense of working light, the miners are enabled to obtain remuneration for their labor without the aid of much capital. At Whisky Slide, Independence and Railroad Flat, intermediate places between West Point and Mokelumne Hill, have been discovered some good leads, on which the work of prospecting is going on. In the neighborhood of Mokelumne Hill more or less work is going on to open and develop the claims there. Near San Andreas are several leads of good quartz, which are of undoubted richness. But the want of capital is the great difficulty in the way of successfully working them. At Central Hill, along down the Calaveras river, at Jenny Lind, and near Mr. Bryant's on the Stockton road, are some very good placer and hill claims, several of which have been opened during the past summer.

Klamath County—

From the *Klamath News*: Mr. James Tonkin, of Salmou, an experienced copper miner, who has worked in the Lake Superior mines for many years, has visited the Caparrum mines, by request of some gentlemen interested in the "Klamath." His report is very favorable. He says that the existence of a ledge is beyond a doubt, but disapproves of the system of prospecting at present pursued. He recommends a tunnel on the Red Cap claim, which he thinks will strike the ledge at from 200 to 250 feet in depth. Mr. Tonkin is about to superintend the clearing out and repairing of the old drift on the Klamath claim, which he thinks is more likely to intersect the ledge than on which they have been lately working. Mr. H. J. Dart, of the Red Cap, is taking out rich ore, and the float ore in the Klamath is abundant and rich in quality.

Nevada County—

From the *Gazette*, Oct. 25th: The present owners of the Cornish, formerly the Ural, have continued their tunnel for a distance of 1,200 feet or more. The ledge where they are now working is of good size, and at a low calculation contains thirty per cent. of sulphurets, which by the chlorinizing process will yield not less than \$200 a ton. The ledge where it was worked above, was in some places six feet in width. A gentleman who visited the Ophir mine the other day informs us that it is yielding richer rock and more of it than ever before. The company now employ one hundred and twenty-five men in and about the mine.

Same of 26th: The steam hoisting and pumping works erected on the Mattingly ledge have been in operation some weeks, and the incline is now down about a hundred and twenty feet. The ledge at that depth is of good size, and contains a considerable quantity of rich sulphuret ore and some free gold. A Mr. Phillips has purchased the Ben Franklin ledge, near Willow Valley, for \$3,000. He leaves for Swansea by the next steamer, and will return in the spring with extensive machinery, which will be erected on the Ben Franklin.

Same of 27th: Arthur Hagadorn and others have traced the ledge on which is situated the Banker or Harpending mine, in a northerly direction for a distance of ten miles from where it has been opened by Harpending, where they have made a location of 2,000 feet. The ledge is visible in places the entire distance, and is some eighty feet in width where the location is made. The rock is a sort of slate, of different colors, containing considerable iron, and we are told shows fair prospect by ordinary crushing in a mortar. The ledge, or what at least is supposed to be the ledge, has now been traced a distance of nearly twenty miles, its course being north of west and south of east, about the direction of the main lodes in this county. Its northerly course will take it near Smartsville, in Yuba county.

Same of 30th: The new mill of Marcelus and Maltman, erected for crushing the gravel in the Manzanita diggings, was started up for regular work yesterday morning. It runs beautifully, and for effective work is not surpassed by any mill in the county of the same number of stamps. Being designed for crushing gravel, no poor or expensive amalgamating machinery are required. The motive power is a burly-gurdy wheel, sixty inches of water, with a head of 180 feet, being amply sufficient to run the fifteen stamps. The stamps weigh 650 pounds

each. The gold is amalgamated in the batteries, and on copper plates. They expect to run through from 80 to 100 tons of gravel in twenty-four hours. The machinery, timbers, and other materials for Pattee's mill, at Devil's Canon, Eureka township, are already on the ground, and the calculation is to have it running by the latter part of November.

Same of 31st: We learn that arrangements have been made for the erection of another quartz mill, this season, on Fall creek, in Washington township. The ledge on which the mill is to be built is owned by Marvin, Lindsey and others. The castings have been ordered from San Francisco, and are now on the way up. The mill is to be run by water power.

From the *Grass Valley National*: From present prospects the Ophir Hill Company expect to be taking out pay ore next week. The company owning Boston Ravine ledge, are now sinking an incline on their ledge, which is about one foot in width and shows well in free gold. On the Home Ticket ledge in Rich Ravine, the shaft is down only about eighteen feet; almost every particle of the dirt that has been taken out contains gold.

From the *Union* of October 25th: We learn from Mr. Wolfe that a Mr. Reeves struck a splendid looking ledge on Saturday last, about 2,000 feet north from the Spring Hill mine.

Same of 26th: From the Washington mine on Franklin Hill, fifty tons of quartz is now being hauled to the Allison Ranch mill, to be crushed. The ledge looks splendidly. We have lately seen some excellent rock from the Jim ledge, which is located about three miles from Eureka South, and owned by David B. Hunt and Sam. T. Curtis. The ledge varies from two to seven feet in width, is rich in free gold and sulphurets, and the rock now being taken out to crush, will, according to the opinion of experienced quartz miners, pay at the rate of \$150 per ton. Five tons of quartz from the Enterprise, the first southerly extension of the Mary Etta ledge, on Diamond creek, were crushed at the Gold Hill mill, in this place, during the present week, and the yield was \$24 per ton. A lot of the rock from the New York Hill mine is being crushed at the Rocky Bar mill. It is estimated that the entire lot will average \$60 a ton. In the lower level, which is down to a perpendicular depth of about one hundred and seventy-five feet, the vein varies from fifteen inches to three feet in width, and the ore looks splendidly. We are informed by one who knows, that \$15,000 worth of magnificent specimens have been taken from the Empire mine, on Ophir Hill, within the past few days. This Empire mill is now crushing a large lot of rock, which it is believed will average not less than \$160 per ton.

From the *Transcript*, Oct. 27th: The machinery for this mill which is to be erected upon the Jim ledge, at Eureka, arrived upon the ground on Wednesday, and the workmen have already commenced putting the mill up. The owners expect to have it ready to start in a very short time. A little more than two months ago, the Liberty and Exchequer companies located claims upon the same ledge, near Eureka. They commenced running tunnels, and at a distance of about 145 feet from the surface they tapped the ledge. They have one hundred feet backs. The ledge is found to be six feet wide.

EXCELSIOR.—From the *Meadow Lake Sun*, Oct. 27th: Nine and a half tons of rock from the Empire claim, crushed at the Winton mill, yielded \$106.99 in free gold. The sulphurets, amounting to about one ton, were saved, but have not been reduced. It is estimated that they will give \$50 to \$60 in addition. On last Monday we were shown a bar from the U. S. Grant mill, the product of about thirty tons of ore from the mine, worth \$2,043.

In the Excelsior mill, only a portion of the machinery is in operation. The results of the work, so far, may thus be summed up: 130 tons of rock crushed in five days; yielded \$15 per ton in free gold, \$1,950; sulphurets saved, first class from blankets, ten tons, worth \$75 per ton, \$750; second class from vats below blankets, fifteen tons, \$60 per ton, \$900; third class from shaking tables, twenty-five tons, \$45 per ton, \$1,125. Total, \$4,725.

Placer County—

The St. Lawrence claim, located near Ophir, is taking out some rich rock. Last week, Mr. E. W. Roberts, the Superintendent, brought up from the bottom of the 80-foot shaft a piece of quartz about a foot in length, which was literally covered with gold. A working test, made of rock taken out fifteen feet above this point, some three or four weeks since, showed \$39 to the ton.

From the *Stars and Stripes*, October 31st: The Stanford ledge is the name of a claim now being opened about one mile below town. A shaft has been sunk on it 28 feet, at which depth the vein is found to be 2½ feet wide, with solid granite casings. The rock prospects well in free gold, and is highly impregnated with sulphurets.

Plumas County—

From the *Quincy Union*, Oct. 27th: The mines on Hopkins' Creek are paying well. Betts & Co. are making from \$6 to \$8 per day in their tunnel on the South Fork of Hopkins' Creek. McManus & Co., at the Forks, are drifting under the old town, making from \$5 to \$7 a day per man. Dodge & Co., at Last Chance, are averaging half an ounce a day to the hand. Northman & Thomas cleared \$2,000 apiece, and sold their claims to James Cox, who has done equally as well in the adjoining claims. O'Neill & Co., at Hopkinsville, by sticking to their claims while others were running to Idaho and Montana, though \$3 or \$4 per day per man was the extent of their earnings, have made each a home-stake. On Nelson Creek, Ellerman & Co. are making from \$4 to \$5 a day in Nelson Creek, opposite High Bar. Murken, Stephens & Co. are taking out from \$30 to \$40 a week for every man employed. White & Richards, at Nelson Point, are still trying to get down to bed-rock. The North Star Company, whose claims are located on Blue Nose Mountain, near Hopkins' Creek, has just completed an air shaft 263 feet in height. Their tunnel is 1,800 feet in length, the last hundred feet of which is in gravel which prospects at the rate of \$1 to the car load, with occasionally a "chipsa" weighing from \$5 to \$15. On Pomeroy's Creek, Jim Gentry has finished cleaning up, and made a good summer's work, the yield of his claim netting nearly an ounce a day to the hand for all the work done. The claims of Martin & Bradley have been paying at the rate of \$10 a day for the last month. A. Turner, on the North Fork of Pomeroy's, is now sole proprietor of the old Linscott claims, to the extent of a thousand feet. The claim has been paying from \$7 to \$12 per day, all summer. Gibbons, Whiting & Co. have had excellent pay for the last four months. Their claims are considered the best on Pomeroy's Creek. Fifteen dollars per man has been the average yield for every day up to date. The Cariboo Company, on the North Fork, took out a nugget last week weighing twelve ounces. The Jaw Bone and the Morris companies taking the lead so far, and both are making from one ounce to \$20 a day to the man. The latter works day and night, employing about 20 men. Of the hill claims, Tripp & Cable have started work again in their tunnel below Jaw Bone, which paid so well last season. Loring & Wagoner continue to find their regular supply of nuggets, working six hands. Hickman's claim has paid also good wages, and so did Drake & Peck's.

From the *Plumas National*, Oct. 27th: On Saturday last, the Berge Mill Company, better known as the Bullfrog Company, struck in their ledge, near Rush creek, one of the richest chimneys of pay rock ever found in Plumas county.

Sacramento County—

From the *Folsom Telegraph*, Oct. 27th: Carr & Hillery last week cleaned up from their claim in Blue Ravine at Mormon Island, \$1,000 after three weeks' run, and wheeled the dirt some distance to their sluices. Milgate's claim at Wall's Diggings, is turning out rich quartz. He expects to have his mill in running order in a short time.

Santa Cruz County—

From the *Sentinel*, Oct. 27th: We are informed that a rich lead of copper ore has been discovered by Mr. Mish, which is reported as being richer than any heretofore worked in California. The ledge is situated about one mile southeast of the Forest House, near the stage road, on the northern slope of the high mountain known as the Loami Prieta spur. The parties owning the claim have formed a company, and will no doubt be incorporated, so as to thoroughly prospect the ledge. The ore resembles Copperopolis metal, and is easily worked.

Siskiyou County—

From the *Yreka Union* of October 27th: Quartz operations on Humbag are still going on with unusual liveliness, with fine prospects. The Shasta Butte company have commenced a tunnel, which is to be 312 feet long, striking the ledge about 150 feet from the surface. The Siskiyou company are sinking a shaft to a considerable depth, in preference to running a six hundred foot tunnel to strike their ledge.

Tulare County—

The Visalia *Delta* of October 24th says: A company of experienced prospectors have just gone out—properly outfitted by some of our business men—to thoroughly investigate the Western slope of this Sierra range, from the Kawiah to Kern River. We apprehend they will make discoveries of great interest to our valley.

Yuba County—

From the *Marysville Appeal*: We learn that the New York Mining company at Smartsville has, within a day or two, struck very rich pay dirt, equal to that of the Blue Gravel company. The 100-horse power steam engine, destined for the Pennsylvania Mining company, Brown's Valley, is now ready at the Marysville Foundry, and will be shipped

next Tuesday... The Blue Point Gravel Mining company filed its certificate of incorporation in the County Clerk's office yesterday (October 27). Location of claim—Sucker Flat, Empire Mining district, Yuba county. Office of company at Smartsville. Capital stock, \$112,000—224 shares, at \$500 each. Trustees: Lyman Ackley, R. L. Cray and J. Whalen.

The copper interest in this county has received fresh impetus by the resumption of work on the Emerald lead. There are at present some six or eight hands employed on this claim, and it is the intention of the proprietors, Messrs. Hardy & Jones, to prospect it thoroughly. The results produced by the expenditures heretofore made on this mine have been very encouraging.

NEVADA.

From the Gold Hill News of October 23d: We yesterday visited some of our Gold Hill mines—from the Imperial to the Crown Point, and without a single exception we found them all busy at work taking out pay ore. The dumps were well supplied with rock. The ore (with few exceptions) is from that portion of the ledge which lies between the first or upper levels and the surface. The lower levels of many of the mines are being worked but little at the present time, from the fact that the expense of hoisting out the water eats up much of the profits; and during the time they are taking out the surface ore the mammoth shaft of the Imperial and Empire companies has attained a depth of twelve hundred feet, completely draining all the mines of the Hill for a depth of four hundred feet deeper than the greatest depth yet attained. When this great work is completed, we expect to see as good ore taken from the lower levels of the Gold Hill mines as ever has been taken out in their most pulmy days.

Same of 24th: In the Kentucky mine the company are putting up extensive hoisting works. The building will be enclosed within five days, but the machinery will not be in running order for some time to come. The machinery consists of a 60-horse power engine, the cylinder being 16-inch bore, and having two feet stroke. Steam is supplied by two boilers, each of which is forty-five inches in diameter and fifteen feet long, and containing forty flues. The mine is at the present time taking out one hundred tons per day of a very superior class of ore.

The Phoenix Mill, below Silver City, was burned Oct. 20th. The Enterprise says that the mill destroyed contained 20 stamps, 36 pans, two boilers, engine, and all the other machinery usual in a quartz reduction mill, and it was owned by F. Berton, of the firm of Hentsch & Berton, San Francisco. It was a valuable mill, but had been lying idle for some time past. The fire was undoubtedly the work of an incendiary.

Reese River—

From the Reveille, October 16th: In Twin River District, the Murphy mine never looked half so well as it does now. The incline has been sunk to the depth of 90 feet, and good ore is being taken out all the time. In the lower drift, which has been run about 200 feet north from the incline, a body of mineral has been struck, which, it is estimated, will yield at least \$250 to the ton in the mill. A drift has also been run to the south, and there the ore is of a very high grade, being a heavy black sulphuret, assaying all the way from \$500 to \$1,000 per ton. In a few feet more the drift will reach the dividing line between the Murphy and McDonald locations, and the owners of the latter will necessarily be benefited by these recent developments. The amount of milling ore now on the dump is not less than a thousand tons, and though it has been very imperfectly assorted, it can scarcely fail to yield from \$100 to \$150 per ton by mill process. The fine twenty-stamp mill just erected by the Twin River Mining Company, who own the Murphy and several parallel ledges, is ready to start operations.

Same of 22d: Robert Morrill and a party of workmen left town this morning for Silver Bend, for the purpose of working the Silver Champion ledge. A house, with provisions and tools, was dispatched to the district on Friday. Passengers are now carried from Austin to Belmont, in the Silver Bend district, in twenty hours, and to Hot Creek in thirty hours.

Same of 23d: We learn that twelve tons of ore from the Camargo mine in Marshall Canon have just been reduced at the Keystone mill. The ore yielded at the rate of \$120 per ton, and produced bullion 784 flue. It was worked up to 84½ per cent. of the pulp assay.

The following is from a communication on the geology of Mount Prometheus, Reese River District: "I believe that the richest deposits of silver that will ever be discovered in this State, and the most extensive, will be found in this district when a sufficient depth has been reached, for every vein thus far developed indicates it. Other districts may have

larger veins and exhibit massive croppings, but the greatest proportion of silver will be found where the fissure veins are narrow and frequent, and the metal concentrated. Large chambers of the precious ore may be looked for at the proper depth below the crust or upper formation in this district the same as it is found in different parts of Mexico; and it is my candid opinion that a depth not to exceed one thousand feet will, when exposed, reveal us handsome and equally massive specimens of native silver as now adorn the niches of the cathedral in San Luis Potosi, taken from the mines in the vicinity of that place."

From the Nye County News, Oct. 13: Mr. Newton Williams, of Summit Canon, North Twin River district, laid upon our table some fine ore from that district, from the Canada and Highland Maid ledges. These ledges are on the same belt with the famous Buckeye claim, and promise well. Work is going ahead on the Buckeye, which is constantly improving, and it is the intention to thoroughly develop this ledge before proceeding to put up a mill, though present appearances would seem to warrant its immediate construction. Business is reported as being quite lively in that section.

Following is the return of bullion-producing mines in Lander county for the quarter ending 30th September, as compiled from the books of C. O. Burder, County Assessor. It will be observed that in several instances ore was brought here from districts in Nye county for reduction, and they are marked thus: Philadelphia, Danville, and Northumberland. The average yield per ton, as well as the production of the Savage mine, is lower than the preceding quarters, owing to the fact that they have been opening new levels in the direction of the deposit of richest ore, which they are now extracting, and which will augment the production and average value for the present quarter:

Name of Mine.	Tons.	lbs.	Av. per Ton.
Great Eastern.....	412	659	\$176 82
Fortuna.....	13	85	71
North River.....	39	636	217 64
Tray.....	2	1,000	83 82
Diamond.....	1	402	132 57
Highland Maid.....	2	1,065	128 64
Semantic.....	2	174	276 97
Othello.....	5	116	36 35
Mora.....	16	1,237	212 61
Richbridge.....	17	195	36
Eastern Oregon.....	1	86	46
Foster.....	26	1,212	48 47
La Plata.....	50	882	71 60
Chase & Zeller.....	4	1,000	362 04
Canada.....	6	1,500	132 91
El Dorado.....	2	568	294 68
Magnolia.....	4	1,171	259 93
Washington.....	4	88	187 45
Vanderbilt.....	2	1,670	145 46
Morgan & Muncey.....	17	634	107 75
Indiana.....	17	803	150 49
Richer & Russell.....	7	612	204 75
Detroit.....	14	1,300	116 18
Camargo.....	39	90	77
Timoko.....	28	253	167 92
Green & Odell.....	1	600	178 43
Dover.....	2	450	161 64
Isabella.....	19	503	40 98
Harling & Hickman.....	7	1,233	59 04
Providence.....	79	1,000	65 07
Cortez Giant.....	217	330	161 00
Transylvania.....	19	6	1,019
Folsom.....	6	1,019	156 83
Savage Cons. No. 1.....	160	74	96
Savage Cons. No. 2.....	230		

Emeralda—

From the Esmeralda Union of October 23d: The shaft of the Philadelphia company has reached a depth of about two hundred and sixty feet, and is being pushed ahead as rapidly as possible. The rock is hard now, and the large volume of water rushing into the shaft interferes considerably with the work, but this obstacle will soon be overcome by putting in a large pump.

Humboldt County—

From the Register of October 20th: The Pioneer mill has suspended active work for the present; not doing custom work, but running on tailings. The occasion is—a necessary enlargement of the reservoir for tailings. Rock will be taken, meantime, and worked in its order as soon as this enlargement has been completed—some two weeks hence. McCormick, just up from Oreana, informs us that the smelting furnaces are in full blast, and turning out cords of bullion from Montezuma ore.

Pahranaagat—

From the Salt Lake Vedette of October 18th: We were recently shown, by His Excellency, Governor Durkee, who has lately returned from Pahranaagat Silver Mining district, two shining silver lumps which were got from less than half a ton of ore by Mr. Mills, from the Green Monster ledge, partly owned by a New York company. One of these bullion chunks weighed forty ounces. It contained about four ounces of gold. The Governor is satisfied that the Pahranaagat country, be it in southwestern Utah or southeastern Nevada, as the case may be, is one of the very richest mining areas in the West, and will so prove to be before many seasons hence. Much industry and mining enterprise is being exhibited there this fall, and a large amount of capital is coming thither from the East.

IDAHO.

From the Idaho World, Oct. 13th: We are told that a party of five have lately found good diggings on Slaughter House gulch, on

Elk creek, opposite this city. On Thursday we were shown a silver bar, made from ore taken from the Banner ledge, on Moore's creek, about seven miles above here, which weighs eighty ounces and is worth \$202.38. It is the product of thirteen tons of the first rock, taken from the ledge. The assay shows a remarkable fineness, viz.: gold, 64 fine; silver, 926 fine, being nearly pure. A party returned from the Green River country, report having found a valley sixty miles in extent, in which some prospects were found, but the diggings are not likely to prove rich. They proposed to return in the spring and prospect further. We were yesterday shown a piece of rock, weighing about twenty pounds, taken from a depth of sixty-four feet in the Garrison Gambinus ledge, which was speckled all through with gold. This ledge and the old Gambinus ledge, together with the first eastern extension of the latter, are now owned by S. G. Rosenbaum, and his purposes removing this mill now at work on his Juniata ledge close by, to the old Gambinus house next week. F. F. Marx has bought the Van Wyck quartz mill, lately located near Centerville, which he will have immediately taken to the Napoleon Hill Company's ledge in Alturas, of which he is chief owner.

From the Avalanche Oct. 20th: The Minear mill is to be started during the coming week by McMillan Bros. on rock from the south extension of the Empire ledge. The miners formerly employed on the Oro Fino mine have obtained judgments to the aggregate amount of \$21,891.57 in suits commenced under the lien law, and against More & Focus' interests in said mine. Judgment was confessed in open court. The Trustees of the Oro Fino and Morning Star Mining Company met and revoked the power given to J. M. More to sell their property. Cause, apparent bad faith on the part of More towards the company. All the liens against the Shoenbar mill were allowed and judgment and order of sale decreed. To the ledge discovered on War Eagle mountain by Geo. Vass and others, has been given the name of "Woodstock." It is forty feet west of the Empire ledge, and parallel with it, and about 300 feet southeast of the original Poorman discovery. The ledge is opened up to a depth of twelve feet, is fifteen inches wide and well defined. A specimen of several pounds weight, left at our office on Wednesday, shows much free gold and black sulphurets of silver equal in richness to much of the Poorman.

From the Statesman Oct. 13th: Three men, named Abner, Webster and Chase, have been prospecting on Green river since July. Their clothes and provisions giving out, they were obliged to leave. As to their prospects, they report having found a high table land extending some sixty miles in length by from five to twelve in width, covered with drift gravel from three to twelve feet in depth. They prospected in many places, always finding what they deemed a good prospect of very fine gold. The deepest hole they sunk was fourteen feet. This is situated on a tributary of Green river, called La Barge. Water is abundant, and the extent of ground that affords this prospect is very great. The gold, they say, seems to be generally diffused through the gravel, which is not coarse, wherever they prospected. Though extremely fine and difficult to save, they are fully convinced that with the aid of quicksilver and copper, good wages can be made over a very large extent of country.

Same of 20th: We find from the returns in the Revenue Assessor's office, that two assay offices in Owyhee county have made the following returns for the month of September of gold and silver bullion assayed by them:

Blake & Co.....	\$121,355 39
King, Webb & Co.....	92,065 53
Total.....	\$213,421 22

The above is the value in gold coin, but since our Eastern exchanges won't understand how much that is, we will make the statement over again for their benefit in currency at 75 cents, and it will then be:

Blake & Co.....	\$162,473 85
King, Webb & Co.....	122,794 44
Total.....	\$285,268 29

Owyhee will yet turn out a hundred times as much bullion as that in one month. It should be mentioned that this return is made for the first month after the close of the Morning Star and Oro Fino mines, so the amount is not so large by sixty or eighty thousand as it would be if those mines had been yielding.

MONTANA.

From the Post, Oct. 13th: Gaston, Simpson & Co.'s mill in New York district, cleaned up \$1,700 on last Thursday, out of thirty five tons of ore, in five days run. Sweeney & Co. cleaned up last Saturday, \$1,750, the reward of a week's run, with a single shift, on Banner Dan's bar. A new discovery of gold was made last week in Brown's gulch, about five miles from Virginia City. Nuggets weighing eleven dollars have been found, and the gold is coarse and in encouraging quantities. A district was organized yesterday.

Helena correspondence: The Ten Mile ditch

has been pushed forward vigorously during the past week, but it is very doubtful, to say the least, whether it will be completed this fall. There is a great deal of work still to be done on it: among other things a tunnel of over fifty yards through the hill west of town, which is about half completed, and fluming without limit. The miners in Lower Last Chance are having a better supply of water than formerly, and are consequently seeing better times. The work which has been done there during the past two or three weeks has materially changed the appearance of the ground.

Bannack letter: The St. Louis Company are smelting fifteen tons of ore per day at Rattlesnake; Prof. Eaton's blasting furnace is about ready for full operation; The Butterfield mill is making good weekly returns; The Bannack Ditch and Mining Company are taking out over a thousand dollars per week; Messrs. Kirby & Clarke will have the largest mill in the Territory running in a few weeks; and hundreds of tons of rich gold ore ready, besides furnaces which will be put up next year.

WASHINGTON.

A gentleman returned from Colville says that quite an excitement existed in that place at the time he left, in regard to some very extensive mining ground just discovered on Arrow Lake, about half way between Colville and the Big Bend country. Nearly the whole population of Colville stampeded for the new diggings. About five miles of country has been prospected over, and Mr. O'Donald was assured that from ten cents to six hits to the pan was easily obtained. The steamer "49," Capt. Lea, White, runs past the new diggings, en route to the Big Bend mines. Mr. O'Donald brought quite a lot of this dust with him, and it is pronounced to be worth \$18 per ounce; the dust resembles Mormon Gulch gold of California.

COLORADO.

From the Journal Oct. 9th: The Smith & Parmelee Company retorted 356 ounces of gold last evening—a single week's run, and worth \$8,496. Work stopped on the Consolidated Gregory, on Tuesday. Mr. Myers of South Clear Creek, Spanish Bar, is soon going to start his mill, Crosby & Thompson, stamps for crushing dry. Mr. Morgan is getting out very fine ore from the Susquehanna Company's mine on the German. It is copper and iron pyrites, and quite rich in bullion. Mr. Smith of Trail Run has been running some of his Freeland ore through Bertola pans at the Bullion Company's mill, getting about an ounce of gold to the ton. The snow has mostly gone off at Argentine and Quail Creek and business up there is being pressed forward with the greatest energy. At the office of the Turks may be seen splendid specimens of ore taken from the Richmond by Hasbrouck & Co. Mr. Lee thinks that in a few weeks the Gregory and Bobtail mines will be in condition to furnish the company's eighty stamps with ore, and that then he will be taking out \$10,000 a week.

From the Denver News Oct. 10th: By a private letter from Montgomery, we learn that the Pioneer Gold Mining Company started their works last week, and have fifteen stamps running. The other fifteen are to be put in the mill soon. The machinery all works to a charm, and it is the intention of the company to keep the mill running right along. Hon. Geo. F. Mitchell, superintendent of the Alps Mining Company, reports affairs as prospering.

From the Register: Reports from the silver mines are excellent. Not a day passes but new discoveries are reported and extremely rich specimens are shown. The Baker lode at Argentine, owned by Mr. Watson, together with parties in Philadelphia, is producing far richer ores than was expected. A considerable portion of them are sulphides of silver. The crevice is wide and still improving. Mr. Watson has his road almost completed. His furnace will be ready to commence smelting this week, as well as his cupelling furnace. Work is being driven on something like a dozen lodes at Argentine. At Snake river the prospect is extremely flattering. Yesterday we were shown by Mr. Blackman, specimens from the Esmeralda lode, situated on Collier mountain. They consisted of white quartz mixed with chloride and sulphide silver, assaying over two thousand dollars per ton in silver. The crevice from which they came, is ten feet wide and still increasing. Other lodes equally well. Silver mines have also been discovered on Chicago creek and Beaver creek on the south, and on James and other creeks on the north.

UTAH.

From the Vedette Oct. 18th: The latest news from the Stockton mines is of the most favorable character. The large reverberatory furnace of Jas. Finnerty was to have been running by this time. Mr. Gibson's furnace is turning out metal daily, and Monheim & Johnson have a large water power smelter, which started upon the 11th. Chase & Yoachum, have also constructed a new furnace, which was to have been started yesterday.

Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

G. W. M. SMITH,..... W. B. EWER,..... A. T. DEWEY.
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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 23, 1866.

Mr. O. P. Truesdell will act as our Corresponding Agent and Solicitor in the interior of this State, from this date. August 23, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. SAN FRANCISCO, Jan 11th, 1866.

San Francisco:

Saturday Morning, Nov. 3, 1866.

NOTICES TO CORRESPONDENTS.

OWING to the large amount of correspondence received relating to interesting points connected with Mining, Metallurgy, Mechanics, etc., we are compelled, for want of time and space, to reply briefly in the following form to a portion of such queries as are of general interest.

W. J. BEGGS, AUBURN—STEATITE, OR SOAPSTONE AND FIRE CLAY.—It would be very difficult to give a correct opinion as to the value of a large deposit of soapstone, even though of the best quality. This substance is found tolerably abundant throughout the State, whilst the local consumption so far has been limited. It is doubtful, therefore, whether our domestic consumption would justify any great outlay in developing a mine or quarry of this material. If, however, obtainable in large blocks, or in flags of considerable area, it is possible a foreign demand might arise, if the carriage to the seaboard is not too great. Respecting fire clay, there can be no doubt that if really such, of easy access and of sufficient quantity, that the ledge will prove a valuable one—as the consumption hitherto may be deemed rather as embryonic, scarcely being entitled to that of infantile. It is quite probable, however, that it will be necessary for the locators to test the quality of the clay by first making a batch of bricks, before the public will accept the statement as being true.

J. M. B., SACRAMENTO—BABBIT METAL is composed of tin, antimony and copper, in proportions as described in his patent, which, we believe, has not yet expired, or if expired, it can only be recently. Directions: Melt 4 lbs. copper; add by degrees 12 lbs. best quality of tin, 8 lbs. regulus (metallic) antimony, and add 12 lbs. additional tin while the previous named metals are in a fused form. After the copper is melted, and 4 or 5 lbs. of tin has been added, the heat should be reduced to a dull red to prevent oxidation, and then add the remainder of the metal as above.

L. S., BUTTE COUNTY.—TRAP is a generic term commonly used to designate every variety of plutonic rock of an amorphous character which distinctly varies from the granitic and cognate varieties. It is sometimes called compact basalt when of a deep black color, greenstone when of a deep bottle-green color. Both of these are called basalt when found in a columnar form. As a usual thing, the term trap is now most commonly confined to compact igneous rocks, possessing a deep brown or reddish color, this color prevailing even when they are penetrated to a considerable depth.

T. P., LOS ANGELES—TIN ORE.—From any specimens hitherto exhibited to us, we have strong doubts whether your vicinity will probably yield in future even a reasonable amount of pure or sufficiently pure oxyd of tin so as to be commercially available. Tin, like lead ore, has to be dressed to a high percentage of metal, prior to being reduced by the furnace; otherwise the sand present will form a heavy silicated slag, which will absorb a large portion of the metal. Another reason has considerable weight with us. In all countries where tin has heretofore been found in any considerable quantity in veins, the adjoining country has been more or less covered with stream or placer tin deposits, just as gold placers are indicative of contiguous gold veins. What few unbroken specimens of tin ore we have seen from your neighborhood, really contained very little tin, the ore being chiefly composed of mixtures of wolfram, oxyd of iron, and schorl, from which it would be difficult, by any known methods, to economically separate the tin ore. Dr. C. T. Jackson was of opinion, from analyzing one specimen, that the tin was originally a double sulphide of tin and copper or bell metal ore. A mine that would yield such an ore in quantity, would be very valuable, and would be worth going to some expense in prospecting. Such an ore would be peculiarly well adapted for making Babbit metal, alluded to above, and similar alloys.

AGUADO, LOWER CALIFORNIA.—We are afraid that all the modes hitherto adopted for producing copper in the metallic state from ordinary copper ores by aqueous means, will be found impracticable in your position. A cheap and easy way of reducing copper from its ores by the bannid method is very desirable, especially when fuel is scarce and expensive.

PROGRESS IN IRON AND STEEL MANUFACTURE.

The last number of the *London Quarterly* contains a review of the second volume of Dr. Percy's Metallurgy. This volume is set apart especially for the subject named at the head of our article. Dr. P. is a Fellow of the Royal Society, and has made this specialty his study for many years. The book is spoken of as a most elaborate and admirable work. The subject is an intensely interesting one. No other metal is so important or so various in its uses. This extraordinary variety is due to its property of entering into combination with carbon in varying proportions, and under different circumstances. Dr. Percy says: "The influence of this element in causing variation in the physical properties of iron, is one of the most extraordinary phenomena in the whole range of metallurgy. Under the common name of iron, are included virtually distinct metals, which in external characters differ far more from each other than many chemically distinct metals." The difference between the ductile wrought iron, the elastic steel, susceptible of receiving very different degrees of hardness by tempering, and the hard, brittle and *unforgeable* cast iron, depends upon the difference in the proportion of carbon, "though other elements often concur in modifying in a striking degree the qualities of this wonderful metal."

It would be extremely interesting to follow the various steps of progress in the art of working iron; but our limits permit us barely to touch upon the most notable ones. The ancient Egyptians were familiar with the use of iron, as is shown by nails in the inner doors of Theban tombs, which could not have been opened for at least 2,000 years. The Assyrians, too, manufactured saws and knives of iron, specimens of which, now in the British Museum, were found by Mr. Layard in Nineveh. The Hindoos, the natives of Madagascar and those of Central Africa, all manufactured iron. Their rude methods have before been alluded to in our journal. The first iron manufactured was probably malleable iron, highly carbonized in consequence of the manner of its production. Dr. Livingstone says that the African tribes on the Zambesi consider the English iron "rotten." A Birmingham blacksmith chilled a specimen of iron made by these people, and found that it was then steel. Du Chailu says the Fans will not use American, or English iron in making their knives and arrow heads, but prefer their own, which has greater tenacity.

The making of articles of cast iron commenced in England about four hundred years ago, in Sussex. Everything was done by means of charcoal. As the manufacture increased, the woods of Sussex became unable to meet the demand. It was even proposed that all iron work should be put down, as threatening the community with the entire loss of fuel.

Then followed many attempts to employ mineral coal. Most of these failed. In 1735, Abraham Darby, of Shropshire, succeeded in solving the problem. He converted it into coke, by treating it as charcoal-burners treat wood, and in this form proceeded to experiment upon it as a substitute for charcoal. With the utmost solicitude he watched his furnace for six days and nights, leaving it neither to eat or sleep. On the sixth evening he had the satisfaction of seeing the iron run out well, and sank down exhausted. From that time his success was rapid.

Next came the "puddling" process, for reducing cast or pig-iron to malleable iron, usually ascribed to Henry Cort, about 1785. The discovery of the "Black-band" ironstone, near Glasgow, Scotland, by David Musbet, in 1801, followed. This is an inferior but very abundant ore. The next step was the invention of the hot blast, by James B. Neilson, in 1828. Strange as it may seem, the efforts of furnacemen had been previously directed to the *cooling* of the blast, under the impression that the best iron was thus made. In some cases the air pipes were even enrouned with ice to secure this end. Neilson's proposal to blow hot air into the furnace,

with the view of intensifying the heat and economizing fuel, was laughed at. At last he succeeded in getting an opportunity to try the experiment. The result was so satisfactory that the value of the process was at once recognized, and it soon became generally adopted. The saving of fuel is more than one-third. The profitable working of inferior ore was thus secured. In 1828, the year in which Neilson took out his patent, the total product of the Scotch mines was 29,000 tons of pig-iron. It now exceeds a million.

We come now to the great discovery of the day in this direction, viz: Mr. Bessemer's process for the direct conversion of pig-iron into steel. The methods for producing steel in modern times are described by Dr. Percy under three general heads, viz: by the addition of carbon to malleable iron, the partial decarburization of cast iron, and the addition of malleable to cast iron. There are various processes for accomplishing each of these ends, into the details of which we cannot enter. Most of them involve great nicety of manipulation, and the results are by no means uniform.

At the time when Mr. Bessemer commenced his experiments, one of the great problems which exercised the minds of inventors was the discovery of some stronger material than cast iron for large guns. It was while occupied with this subject that the idea occurred to Mr. B. of *blowing air through melted pig-iron*; thus—instead of bringing the particles of iron in turn into contact with the air, as is done in the puddling operation—forcing the air into contact with the separated particles of iron. In 1856 he set up a cupola furnace for the trial. Five tuyere pipes, three-eighths of an inch in diameter, entered it near the bottom. The experiment was a hazardous one. The blast was turned on, and the melted iron was poured through the charging hole. The commotion that took place was most extraordinary; the melted iron dashed from side to side of the vessel; flames shot up from the mouth of the furnace, bearing large masses of slag. A heavy cast iron plate suspended over the top dissolved in mist, together with several yards of the chain by which it hung. No one durst approach to turn off the air. Affairs became alarming, and the fire engines were sent for; but before they arrived, "the fury of decarburization had expended itself, and the product was run off."

The result was sufficiently satisfactory to induce Mr. B. to continue his experiments. It was soon found that by interrupting the process before decarburization was complete, the product was *steel*, and of good quality. But it was found, in practice, that the difficulty was to interrupt the process just at the right time to produce the kind of steel which might be desired. In consequence the discovery began to be neglected, and after a time was considered by many to be a total failure. Mr. Bessemer, satisfied that the principle upon which he had proceeded was the correct one, set himself to work to remedy the defect in his process. Several years were spent in further experimentation. At last he hit upon the plan of first completing the decarburization, and then introducing a quantity of fluid carburet of iron containing the exact measure of carbon required for the iron or steel to be produced. The thing was done; but now the question was, how to introduce again the process which had fallen into disfavor. No one would meddle with it. He had but one alternative—to abandon the invention altogether, or to turn steel manufacturer himself. He adopted the latter course, and has now for some years carried on extensive operations in Sheffield. The great value of his invention is now duly acknowledged. The average price of the steel so manufactured is at least one hundred dollars per ton less than the previous average price.

Probably the most important use of the Bessemer steel is for railway purposes. As the weight of the locomotives manufactured has increased, the strength and hardness of the material used for rails ought to have increased in the same proportion. But this has

not been the case. The wear and tear of rails has been enormous. The cost of the maintaining and renewal of track on the Great Northern Railway has increased, during the last fourteen years, more than 200 per cent. Experiments have therefore been instituted within the last few years to determine the fitness of steel for this purpose. At a certain point on the London and Northwestern Railway, where many tracks converge, and where, owing to the constant stopping, backing, and making up of trains, the wear was so great that the rails were ground to pieces in two months, two steel rails were laid down precisely opposite to two new iron rails of the best quality, in such a manner as to be subjected to precisely the same wear. When the iron rails were worn down as far as safety would allow, they were turned, and the lower faces worn out in the same manner. They were then replaced by new rails. Three years and four months afterwards the steel rails were found to have worn down evenly about a quarter of an inch. During that time eight iron rails had been worn out on both faces!

Steel rails are now in use on several roads in England, and the same material is being adopted for oxles and wheel-tires. Our own people are beginning to follow suit; and 10,000 tons of Bessemer steel has been ordered from a single Sheffield firm, for the use of different railroads in the United States. The *United States Railroad Register* of September 29th, says, "the Lehigh Canal Company have contracted for steel rails for forty-eight miles of their progressing railroad. The rail will weigh fifty-six pounds per yard, and be wholly of Bessemer steel."

Mr. Robert Mushet, the son of the discoverer of the black-band iron stone of which we have spoken, recently read a paper before the British Association, in which he claims that his father took the first step in the "pneumatic" or Bessemer process, in 1815, inasmuch as he took out a patent for the manufacture of refined iron direct from the blast furnace. He admits, however, that the maintaining a tuyere beneath a column of melted iron was Mr. Bessemer's own idea, and that Mr. B. is therefore entitled to the credit of having made the first great advance towards making steel as cheap as iron. But he claims that he saw, at an early date, that as iron exposed in a melted state to the action of oxygen became debased, by being made "burnt iron," or as Mr. Mushet calls it, "oxygenated iron," some metal must be added during the process which has a greater affinity than iron for oxygen. He therefore experimented with manganese, in the form of "spiegeleisen," and successfully. A patent was granted him in 1856. But in 1859 this patent "lapsed" through non-payment of the stamp duty of £50, owing to some oversight of the trustees to whom he had entrusted his patent right. He thinks that his invention, in reality, gave to the Bessemer process its chief value; and thinks it hard, that through such an accident, he should lose the benefit of it, and Mr. Bessemer be allowed to use it without the payment of a royalty.

We quote a few of the last words of the paper:

"The pneumatic process of Mr. Bessemer, in conjunction with my spiegeleisen process, is producing a revolution in the engineering world, and in all the departments of art dependent upon engineering, to an extent almost incredible, and the magnitude of its ultimate effect it is impossible fully to foresee. Mr. Bessemer's name will be remembered in connection with this, the greatest metallurgical invention the world has ever seen; and I venture to hope that I may not be wholly forgotten as having supplied the link which was wanting to render Mr. Bessemer's process what it now is."

This interesting subject may again be taken up by us.

THE TOUR TO PAHRANAGAT.—At the College Hall, Oakland, on Monday evening last, Rev. Mr. White, of Carson City, delivered a very good narration of the recent journey of Gov. Blasdell and party to Pahrnagat. His description of Mono Lake and Death Valley was full of interest and information.

PETROLEUM.—Thirty-two cans of oil recently arrived in this city from the works of the Buena Vista Company, Tulare county.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

BLOW PIPE.—Josiah McFarland, Clinton, Ill.: This invention consists in applying an air chamber to a force pump, and to a flexible pipe with a fine pointed mouth-piece, in such a way that by means of the pump the chamber is filled with compressed air or gas of any character, when, by closing suitable cocks, the same can be confined and retained therein and the air chamber taken off and carried to the place where the blow pipe is to be used, and by the action of the air or gas a powerful blast obtained without the labor or agency of the operator.

SAFETY POCKET.—Jas. T. Chambers, Utica, N. Y.: This invention consists in so constructing a pocket, that a watch or any other article placed in it cannot be abstracted or removed without the knowledge of the possessor or wearer.

SAW MILL.—George W. Coddington, Middletown, Ohio: This invention has for its object to furnish an apparatus for supporting the middle part of the log while being sawed, so that it may be prevented from bouncing and jumping, enabling the saw to be run at full speed from one end of the log to the other, without its being necessary to check the speed of the saw, or alter or take off the feed when approaching the middle of the log or carriage, as is now the case.

MOLDER'S FLASK.—E. C. Little: This improvement consists in a cast iron frame for molder's flasks, constructed with hinges and pins peculiarly fitted for connecting the cups and drags so that they are adapted to a match-plate, without producing any lateral movement to disturb the pattern.

CORN HARVESTER.—S. Sechrist: This invention is designed as a labor-saving implement for cutting and gathering Indian corn and sugar-cane, and leaving the stalks standing in shocks as the machine travels over the field, making clean and expeditious work.

COMPOSITION ROOFING.—James G. Holliday, Wheeling, W. Va.: This invention consists of a composition roofing, formed for combining coal tar, still bottom of petroleum, acid tar, finely ground brick clay, and refuse lime from gas house, with each other.

RECENT INVENTIONS.

STOP-MOTION FOR SPINNING MACHINES.—Lewis Cutting, San Francisco, Cal.: I claim the bar, J, and slide, N, combined and operating substantially as and for the purposes described.

UMBRELLA.—Wm. Damerel, Brooklyn, N. Y.: I claim an umbrella held closed or shut by means of an elastic band placed around the stretchers of their frames, substantially as shown and described. I also claim rests, F, as arranged for holding the band or string, E, in its proper place, on or over the stretchers of an umbrella in all conditions, whether closed or extended, substantially as described.

RESPIRATOR.—Theodore A. Hoffman, Beardstown, Ill.: I claim the gauze, B, inclosed cotton, C, covering, F, and elastic strap, E, combined and provided with the elastic strap, D, and operating substantially as described for the purpose specified.

PEAS-SHELLER.—George T. Savay, Groveland, Mass.: I claim combining the roller of a machine, as described, by the employment of a ring of vulcanized rubber or other elastic or suitable material under such an arrangement that while motion is communicated from one roll to the other by friction of contact, there shall also be a sufficient space between the two rolls to effect the shelling of the peas, as herein set forth and described.

NEEDLE-THREADER.—Charles L. Spencer, Providence, R. I.: I claim a needle-threader, the threading channel of which is divisible, all substantially as described.

AMALGAMATOR.—S. Frederick Charles, assignor to himself and J. E. Russell, Dahlonega, Ga.: I claim, 1st, The so combining a panning machine, a regrounding machine, and an amalgamator that the gold shall be thoroughly extracted by the continuous action of all of them, substantially as set forth. 2d, The adjustable partition, B, constructed and operated substantially and for the purposes set forth. 3d, The deep radiating channels, j, in the lower surface of the grinder, K. 4th, The combination of an upper revolving grinder with an oscillating lower one, constructed and operating substantially as specified. 5th, The case or shell, M, of the grinders, in combination with the rollers, I, and the reciprocating arm or lever, O. 6th, The amalgamator, R, so constructed as to form one large and one narrow compartment by the insertion of the removable and adjustable partition, o, sub-

stantially as specified. 7th, The revolving frame, provided with amalgamating pans, suspended below the surface of the voracious mounds, constructed and operating substantially as and for the purposes specified. 8th, The location of the flue below the series of amalgamators, substantially as and for the purposes specified.

PATENTS can be obtained for citizens on this Coast through the Mining and Scientific Press Patent Agency. In one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California Inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE.

DEWEY & CO.,
Patent Agents, 505 Clay street, San Francisco.

LIST OF OFFICERS OF CORPORATIONS AND MINING COMPANIES.

[PUBLISHED IN THE FIRST ISSUE OF EACH MONTH.]

[Below we give the date of recent meetings held in this city, and the names of officers chosen or appointed. Every Mining Company is invited to send us the result of their election, to be put on record, gratuitously, with any other facts of general interest.]

CHAMPION M. Co.—October 8th. Trustees: R. Roxby, F. Roeding, G. H. Howard, R. Smith, F. Sievers, J. Mosheimer, F. E. Lynch. President, R. Roxby; Secretary, J. F. Lohsa; Treasurer, A. Gausl; Superintendent, E. C. Fogg.

ENTERPRISE G. & S. M. Co.—Meadow Lake District. October 17th. Trustees: A. De Land, E. B. Mott, Jr., C. W. Young, Wm. B. May, Joseph Da Bell. President, A. De Land; Secretary, Joseph Da Bell; Treasurer, Wm. B. May.

GREAT CENTRAL M. Co.—October 8th. Trustees: A. S. Evans, S. S. Tilton, E. H. Washburn, Nathaniel Page, Wm. Thompson, John R. Mason, James Brokaw. President, A. S. Evans; Secretary and Treasurer, O. D. Squire; Superintendent, Wm. Thompson.

LA BLANCA S. M. Co.—October 9th. Trustees: D. Dwyer, E. Wertheimer, H. Engelbrecht, H. Newman, G. D. Heldebrandt. President, D. Dwyer; Secretary, E. Goldman; Treasurer, E. Wertheimer; Superintendent, F. Hartman.

EL TASTE S. M. Co.—October 16th. Trustees: J. B. Roberts, J. R. Mead, A. F. Sawyer, C. Wittrah, F. Wittrah, J. N. McCue, F. McCrellish.

RECENT INCORPORATIONS.

MONTEREY Q. S. M. Co.—Monterey Co. Capital stock, \$400,000; 4,000 shares; \$100 per share. Trustees: Theo. L. Rose, Charles Mayne, Calvin Puige, John Nightingale, L. S. Robinson. October 27.

PEACOCK C. N. & C. M. Co.—Meadow Lake Mining District, Nevada county. Capital stock, \$675,000; 2,700 shares; \$250 per share. Trustees: Rollins C. Gaskell, Frederick F. Low, John F. Miller, Andrew J. Snyder, Geo. G. Gorham, Benj. B. Redding, Geo. Howland. October 23.

MOUNTAIN HONE WATER CO.—San Mateo county and vicinity. Capital stock, \$500,000; 5,000 shares; \$100 per share. Trustees: J. J. Felt, William Norris, William Pierce. October 2.

WATSON G. & S. M. Co.—Devil's Gate Mining District, Lyon county, Nevada. Capital stock, \$280,000; 1,400 shares; \$200 per share. Trustees: Henry Schwartz, J. Chahouna, S. B. Watson, Geo. A. Parker, M. Adler. October 6.

TEXAS FLAT M. Co.—Fresno county. Capital stock, \$715,000; 7,150 shares; \$100 per share. Trustees: Geo. Hearst, Wm. Shear, John Moss, Wm. M. Lent, Geo. B. McAneny. October 9.

ODD FELLOWS' SAVINGS BANK.—San Francisco. Directors: Chas. Langley, Henry B. Brooks, Henry J. Booth, John A. McClelland, Abram Block, Moses Selig, Chas. Bernard, Cutler McAllister, Philo White, David Hunter, Newton Booth, John F. Miller, John Cammet, Chas. Metzler, Martin Heller, Chas. N. Fox, Daniel McLaren, Fred. Fortmann, Joseph Brandenstein, Wm. A. Woodward, David Meeker, Aaron A. Sargent, Wm. Jones. October 13.

QUAIL HILL CANAL CO.—Calaveras county. Capital stock, \$100,000; 100 shares; \$1,000 per share. Trustees: Archibald C. Peachy, G. M. Granniss, Numa Hubert. October 15.

POTRERO HOMESTEAD ASSOCIATION.—San Francisco. Capital stock, \$13,120; 32 shares; \$410 per share. Trustees: G. S. Ashmead, James Laws, D. T. Jester. October 18.

CHEROKEE FLAT BLUE GRAVEL CO.—Butte county. Capital stock, \$65,000; 650 shares; \$100 per share. Trustees: A. Caselli, Edward Hunt, H. Kozninsky, O. P. Sutton, Julius Baadmann. October 19.

By a slip of the pen last week, we said cast iron instead of wrought iron, in alluding to the tubae of Mr. John Lochhead's improved steam boiler.

ARIZONA.

Mr. Chas. H. Leach, who has been engaged for some months in mining in Arizona, called on us the other day. He presented us with two specimens of rich ore, which are noticed among the "Contributions for our Cabinet."

Mr. Leach assures us that there are many other mines, partially opened, in the vicinity of Queen City lode, which show ore of equal richness. He says that all the country needs to secure for it a prosperous business condition, is a sufficiency of capital to develop a few of the most promising of these mines. The example would soon be followed, and the great richness of the country be demonstrated. The efforts which have been made to obtain from Government more complete and efficient military protection against Indians, have resulted in the issuing, on October 20th, of Special Order No. 206, providing for the establishment of two new stations, one at the mouth of El Dorado Cañon, and the other at Rock Spring, sixty miles west of that point. Camp Cady is also to be re-garrisoned with cavalry. This movement, together with the recently demonstrated fact of the navigability of the Colorado as far as Callville, will go far toward opening up the country to those who wish to invest in mining.

Mr. L. left us on the steamer of Tuesday last for the Atlantic States. He goes to Philadelphia, there to perfect certain arrangements for the working of the ledges belonging to the company which he represents, and whose principal office is in that city.

GREAT CENTRAL MINING COMPANY.—The principal operations of this company during the past year have been mainly confined to the Eliza copper lode, at William's Fork, Arizona. A statement made by the Trustees, Oct. 8th, shows that the company have made permanent improvements at the Great Central Camp, consisting of a dwelling, shop, etc., worth one thousand dollars, and have machinery and material on hand estimated, at low figures, as follows: Smelting works, engine, boilers, tools and machinery of all kinds, \$4,000; team and wagon, \$500; supplies, provisions, etc., \$1,000. The late Mr. Ehrenberg estimated the amount of pay ore in sight at 2,500 tons. Mr. Henry Martin, who visited the mine on the 21st of September, also reported that Mr. Thompson will make by the 1st of December, at the lowest calculation, \$10,000 worth of copper mata, as he is running all the furnaces. We hope the anticipations of the owners of the rich silver and copper mines of Arizona are now about to be realized.

Dr. B. M. Esterle, of Third street, in this city, has invented a plan for preventing cars on street railroads from running off the track. A strip of iron, wedge-like at both ends, is fastened to the inside of the rail. They are alternated in such a manner that opposite wheels do not touch them at the same time. If a fore wheel is thrown off the track, it is immediately brought on again by the opposite strip. So, also, in backing, if a hind wheel is thrown off. It will be especially useful at the curves. It will be likely to prevent, in some degree, the driving of other vehicles upon the track.

STOTT'S REFINED PETROLEUM.—We have received a can of "Charles Stott's California Illuminating Oil," which, we are assured, was refined by Mr. Stott's new process, for which he has recently applied for letters patent. It is of good color and burns with a steady flame, giving a brilliant and strong light. This oil is devoid of the offensive odor usually possessed by kerosene oil. It appears to be a superior article.

PACIFIC HYGIENIC HOME WATER CURE, at Fountain Farm, near Oakland. Chartered and conducted according to the teachings of the Hydropathic College of New York, by the Pacific Hygienic Home Association (Incorporated), B. J. Smith, M. D., Consulting Physician; R. S. Macbeth, M. D., Attending Physician; W. G. W. Harford, Manager; H. Andrews, Business Agent. Office, Baths and Lecture Hall, No. 627 Sacramento street, between Montgomery and Kearny streets. Free Lectures every Tuesday and Friday evenings.

A splendid paper, and should have a good list of subscribers in prosperous Grass Valley.—[G. V. National.

ABSENT.—Mr. Ewer has been rusticated in Santa Clara and Santa Cruz counties during this week. Editorial remarks from that direction may consequently be expected in our next.

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A NOTABLE CITY.—An article by J. A. Blake in *Hunt's Merchants' Magazine* for September, on "Pittsburgh—Its Future and Present," commences thus:

"Pittsburgh is the greatest and richest mining center in America. It ranks the third city in manufactures, and its commercial facilities are unrivaled. Situated at the confluence of the Monongahela and the Alleghany, the banks of the former ribbed with coal veins and beds of iron ore from source to mouth, and the banks of the latter, with its tributaries, bordered by the richest of oil lands in the world; at the head of navigation on the Ohio, by which she has commercial intercourse with the whole great South and West, and the cities across the ocean; at the junction of the two richest rail thoroughfares in the country; yearly planning and receiving new channels for her trade East, West, North and South; and extending a network of railroads that control and bring to this city the product of every mining field within a radius of two hundred miles; forging the great guns and the iron clads that made the old Union strong again; and making plowshares, engines, and implements of agriculture for the 'piping times of peace,' the center of the great steel, iron and glass works; a Newcastle, a Sheffield, a Birmingham, a Staffordshire; everything that any city could ever aspire to be, in commercial, manufacturing, mining and political position, is Pittsburgh."

TO PRESERVE THE COLORS OF FLOWERS IN DRYING.—A vessel with a movable cover is provided, and having removed the cover from it, a piece of metallic gauze, of moderate fineness, is fixed over it, and the cover replaced. A quantity of sand is then taken sufficient to fill the vessel, and passed through a sieve into an iron pot, where it is heated, with the addition of a small quantity of stearine, carefully stirred, so as to thoroughly mix the ingredients. The quantity of stearine to be added is at the rate of half a pound to one hundred pounds of sand. Care must be taken not to add too much, as it would sink to the bottom and injure the flowers. The vessel, with its cover on, and the gauze beneath it, is then turned upside down, and the bottom being removed, the flowers to be operated upon are carefully placed on the gauze and the sand gently poured in, so as to cover the flowers entirely, the leaves being thus prevented from touching each other. The vessel is then put in a hot place, such, for instance, as the top of a baker's oven, where it is left for forty-eight hours. The flowers thus become dried, and they retain their natural colors. The vessel still remaining bottom upward, the lid is taken off, and the sand runs away through the gauze, leaving the flowers uninjured.—*Journal of Society of Arts.*

A STEAM FIRE ENGINE has been tried in Colorado as a substitute for the hydraulic in mining. It is said that it worked satisfactorily. It is quite possible that it would be desirable in some localities; yet we should suppose the expense would be a fatal objection, except where it was impossible to obtain sufficient fall in the old way.

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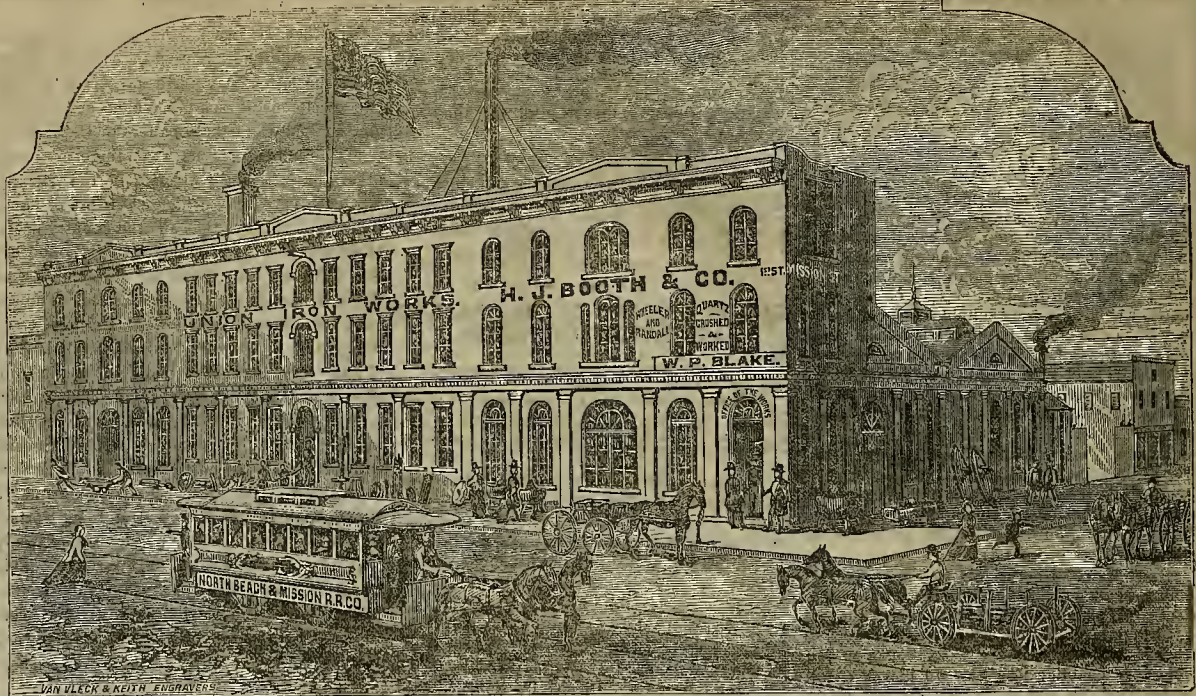
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& Co., San Francisco, should be in the hands of every
miner. It gives every week information that is indispen-
sable to the proper prosecution of mining. Every miner
can avail himself of the latest improvements by subscrib-
ing for it.—[Havilah Courier, Oct. 13.]

THE MINING PRESS has entered upon its thirteenth vol-
ume. It is a valuable publication in its sphere, and its
sphere is a large and important one.—[Marysville Appeal,



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All jobs entrusted to us will be attended to with prompt-
ness and on reasonable terms. The patronage of Printers
is respectfully solicited.

16v13-ly
J. O. HANSCOM, H. S. SMITH. **HANSCOM & CO.,** T. PENDERGAST, W. W. HANSCOM.
Etna Iron Works!

Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.
Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting
PISTON PACKING,

New so extensively used in the East and in this State. Re-
quires no springs or screws; is always steam-tight; without
excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or any where else.
Wheeler & Randall's New Grinder and
Amalgamator,
Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,
Giving greater power at lower cost, than any wheel in use.
Send for one of our circulars, giving full tables.
All Wheels warranted to give the power as set forth, or
the money will be refunded.
Sole makers for this coast of the "Pendergast
White Iron Stamp Shoes and Dies."
None genuine unless obtained from us. Every one war-
ranted.
Patented Machinery of all kinds will be furnished by us
at market prices. Particular attention given to drawings
and specifications of machinery, which will be made to
order. The patronage of the public is respectfully solicited.
19v12

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,
MANUFACTURERS OF
STEAM ENGINES,

Quartz, Flour and Saw Mills,
Grinder and Amalgamator, Brodie's
proved Crusher, Mining Pumps,
Amalgamators, and all kinds
of Machinery.

45, 47 and 49 First street, between Market and Mis-
son street, San Francisco. 3-37

NEPTUNE IRON WORKS,
Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MARINE
Locomotive,
And all kinds of
HIGH PRESSURE
Steam Boilers

MADE
All Boilers guaranteed and
tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.

All kinds of Sheet Iron and
Water Pipe, Coal Oil
Stills, Wrought Iron
Vorms, etc., etc.
Manufactured to Order.

Old Boilers Repaired
D. CAMERON.

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Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired
with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old cylinders, manufactured
to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

SAN FRANCISCO
Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of
Marine and Stationary Engines.

Quartz Machinery, Saw, Flour and Sugar Mills, Mining
Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Cider, Cotton and Tobacco Presses
of the latest Improved Patterns.
Brodie's Improved Patent WIND BLAST SEPARATOR,
for Dry Crushing; Baux & Guld's Amalgamator and
Separator; Coal Oil Well Boring Machinery
complete, on hand.

STEAM ENGINES AND BOILERS,
Of all sizes, constantly on hand; Quartz Mill Shoes and
Dies, guaranteed to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston
Packing, requires no springs or screws; is always steam-
tight; without excessive friction, and never gets slack or
leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at
the lowest market rates.

6v11-ly **DEVOS, DISMORE & CO**

JAMES MACKEN,
COPPERSMITH,
No. 226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best
manner. Particular attention paid to Steamboat, Sugar
House and Distillery work.

Repairing promptly and neatly attended to.
13v11

JOHN LOCHHEAD'S
Steam Engine Works,
Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland
navigation is called to the

Superior Workmanship
of Mr. LOCHHEAD, who has been in the business in San
Francisco for the last fourteen years, and enjoys the rep-
utation of having built ONE HUNDRED AND SEVENTEEN
STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery
generally, made to order, and warranted to give perfect
satisfaction in every particular.

26v12-3m

ESTABLISHED [MAY, 1860.]

VOLUME THIRTEEN

-OF THE-

Mining and Scientific Press,

COMMENCING JULY, 1866.

DEWEY & CO., Publishers.

Issued every SATURDAY, at our Book and Job Printing Office, 505 Clay street, corner of Sansome, San Francisco.

Terms in Advance:—One year, \$5; Six months, \$3; Single copies, 15 cents; Monthly Series, \$5.50 per year, or 60 cents per number. Back Volumes from January, 1864, \$3 per volume; bound, \$5 per volume.

The MINING AND SCIENTIFIC PRESS is now thoroughly established, and enjoys one of the largest and most permanent subscription lists of any weekly journal on this coast. The individual character and reputation of its constant patrons throughout the entire coast is one of the best recommendations of its merits and value as a medium of intelligent progress and prosperity.

DEWEY & CO., Proprietors.

Mining and Scientific Press Patent Agency, Newspaper Book and Job Printing Office, 505 Clay street, San Francisco.

U. W. M. SMITH. W. B. EWER. A. T. DEWEY.

Mammoth Quartz Lode, Keysville District, Kern County.

"To all whom it may Concern."

ALL PARTIES negotiating for interests in the above Lode, would do well to examine titles before investing, as the legal title to a considerable portion thereof is vested in the undersigned.

WILLIAM MARSH,
W. L. KENNEDY.
Keyville, Kern County, Oct. 1, 1866. 16v13n3m

Baldness! Baldness!!

CAN BE PREVENTED, BY USING

Mayhew's Balsamic Hair Stimulant!

THIS REPARATION HAS BEEN USED AND RECOMMENDED by some of the most prominent members of the medical profession of this city.

For the removal of DANDRUFF, SCURF, for preventing the Hair from falling off, and for producing a new growth, IT IS WITHOUT A RIVAL.

For particulars and references, see circulars accompanying each bottle. Prepared by
W. E. MAYHEW, Druggist,
N. W. Corner Fourth and Howard streets San Francisco.

He gives his personal attention to the preparation of Physicians' prescriptions.

Also, has constantly on hand a choice assortment of French, English and American Toilet Articles. 16v13-6w

GOLD AND COPPER MINES!

Quartz Leads and Gravel Claims?

In various localities. For sale by

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REPORT

-OF THE-

COMMITTEE

-ON-

SEWING MACHINES!

California State Fair, 1866:

"TO THE PRESIDENT OF THE STATE AGRICULTURAL SOCIETY:

Your Committee on Sewing Machines beg leave to report that we have examined the several Sewing Machines on exhibition, (the Grover and Baker, the Wheeler & Wilson, and the Florence,) and find that

FOR GENERAL FAMILY USE

-THE-

"FLORENCE"

-IS-

"THE BEST."

(Signed) J. N. ANDREWS,
THOMAS C. McHALE,
L. ELKUS.

If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco Office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.

SAMUEL HILL,

General Agent, 111 Montgomery street, San Francisco. 17v13

Just Published.

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS OF THE NERVOUS SYSTEM AND REPRODUCTIVE ORGANS, to be had by addressing and enclosing twenty-five cents, postage stamps, to Secretary PACIFIC MUSEUM OF ANATOMY, Montgomery street, San Francisco. 17v13-ly

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.
BARTLING & KIMBALL,
BOOK BINDERS,
Paper Rulers and Blank Book Manufacturers.
505 Clay street, (southwest cor. Sansome),
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JOHN DANIEL,
(SUCCESSOR TO O. GORD)
MARBLE WORKS,
No. 421 Pine st. bet. Montgomery and Kearny, San Francisco
Mantels, Monuments, Tombs, Plasters' Slabs
Etc., On hand and Manufactured to order.
Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

NATHANIEL GRAY,
General Furnishing Undertaker,
641 Sacramento St., corner of Webb, San Francisco.
Barstow's Metallic Barial Caskets and Cases.
11v

THEODORE KALLENBERG,
Maker of Models for Inventors.
MACHINES, MATHEMATICAL, OPTICAL AND PHIL-
LOSOPHICAL Instruments, Scales, Weights, etc. Steel
Stamps, Dies and Die Sinking, Embossing Stamps. Repair-
ing of machinery promptly attended to.
No. 418 Market street, San Francisco. 17-1f

Palmer's Patent
ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
JARVIS JEVETT, AGENT.
629 Washington Street, San Francisco, Cal. 10v8-1m

HUCKS & LAMBERT,
SOLE MANUFACTURERS OF THE CELEBRATED
H. & L. AXLE GREASE,
Natoma Street and North Beach,
2v13-3m SAN FRANCISCO.

F. M. TRUWORTHY,
STENCIL PLATE CUTTER,
—AND—
BRAND MANUFACTURER,
No. 321 Front street, corner of Commercial,
SAN FRANCISCO.

Names for Marking Linen, Brushes, Ink and Marking
Pots for sale. 9v13-3m

LEATHER HOSE AND BELTING,
ALL SIZES.
SUCTION HOSE MADE TO ORDER
At short notice, by
M. M. COOK & SON,
No. 601 Battery street,
13v13-3m SAN FRANCISCO.

Empire Sewing Machine Company.
Principal Office, 616 Broadway, New York.
GREAT IMPROVEMENT IN SEWING MACHINES.
Empire Shuttle, Crank Motion Sewing Machine. It is
thus rendered noiseless in action. Its motion being all positive,
it is not liable to get out of order. It is the best Family
Machine! Notice is called to our new and improved
Manufacturing Machine, for Tailors and Boot and Shoe
Makers. Agents wanted, to whom a liberal discount will
be given. No consignments made.
EMPIRE SEWING MACHINE COMPANY.
17v13-5w

LEAD PIPE,
SHEET LEAD,
DROP AND BUCK SHOT
MINNIE BALLS, BAR LEAD, ETC.,

Are now manufactured at the

SAN FRANCISCO AND PACIFIC
Lead Pipe and Shot Works,
Corner Howard and First streets,
SAN FRANCISCO.

Every article made at the above Works is WARRANTED
PERFECT, and made of pure, soft, refined LEAD. Orders
can be sent direct to the Factory, or to the subscribers.
THOS. H. SELBY & CO.,
13v13-3m 116 and 118 California street.

Book Printing should be considered and treated
as one of the higher branches of the "Art of Arts," and
its execution entrusted only to experienced and intelligent
workmen. Strict attention will be given to all orders for
BOOK AND PAMPHLET PRINTING entrusted to the Mining and
Scientific Press Job Office.

Its correspondents are men of science and learning, and
hail from all parts of the coast. It is published at San
Francisco, at \$5 per annum, or \$3 for six months. Address
Dewey & Co., publishers of MINING PRESS, San Francisco.
[Nye County News.]

Professional Cards.

WILLIAM P. BLAKE,
MINING ENGINEER,
Will make Surveys and Examinations of Mines, or give
advice regarding their working, the erection of Ma-
chine at Union Iron Works, corner of First and Mission
sts., or Lock Box 2,077 Post Office, San Francisco.
11v22-4y

SHERMAN DAY,
Mining Engineer,
No. 57 Montgomery Block, San Francisco.
Will examine, survey and report upon mines, and consult
and advise concerning investments in mining property, or
the machinery management and expenditures of mines.
22q

FREDERICK MANSELL.
Mechanical & Architectural Draughtsman,
No. 422 California street, corner of Leidesdorff.
Drawings of MODELS made for parties applying for pa-
ents at Washington or London. mar23-1f

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
COURT COMMISSIONER, appointed by the Fourth District
Court, COMMISSIONER OF DEEDS for Nevada
and Massachusetts.
Court Block, San Francisco.
Entrances opposite City Hall, Merchant street, and 636
14v11f Clay street.

DR. H. AUSTIN,
DENTIST,
No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER SAN FRANCISCO BATHS]
SAN FRANCISCO. 20v10-4y

DR. D. R. BECKFORD,
OCULIST,
Office of Dr. Beckford's "Golden Eye Water,"
16v12-3m NO. 719 CLAY STREET.

AUGUST KUNAST,
Stock Broker,
Member of the
San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
Office, No. 540 Washington Street, San Francisco. 2v10

GEORGE H. BAKER,
Lithographer & Engraver,
No. 522 Montgomery St., San Francisco.
MINING STOCK CERTIFICATES LITHOGRAPHED
IN MOST ARTISTIC STYLE. CALL AND
EXAMINE SPECIMENS. 10v8-1f

PHOTOGRAPHS
MADE BY
MESSRS. CHALMERS & WOLFE,
611 Clay street, San Francisco.
Are the best made in the city. An examination of their
specimens before going elsewhere, will prove the truth of
the above assertion. Prices—the lowest adopted by the
Association of Artists. Remember the place, 611 Clay
street. 11v13-2m

Pacific Mining Agency.

ALMARIN B. PAUL,
N. E. cor. California and Kearny sts, upstairs,
14v13 1m SAN FRANCISCO.

Pacific Mail Steamship Co's
THROUGH LINE TO NEW YORK,

Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11
o'clock A. M. of the following dates, for
PANAMA, connecting via Panama Railroad, with one of
the Company's splendid steamers from ASPINWALL for
NEW YORK.

On the 10th, 18th and 30th of each month that has
30 days.

On the 10th, 19th and 30th of each month that has
31 days.

When the 10th, 19th and 30th fall on Sunday, they will
leave on Saturday preceding; when the 18th falls on Sun-
day, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at
Manzanillo. All touch at Acapulco.

Departures of 18th or 19th connect with French Trans-
Atlantic Co.'s steamer for St. Nazaire, and English steamer
for South America.

Departure of 10th connects with English steamer for
Hampden, and P. R. R. Co.'s steamer for Central
America.

Departure of the 30th connects with English steamer for
Hampden, and the port of the new mines.

The following Steamships will be dispatched on dates as
given below:

October 30th—MONTANA..... Capt. Geo. H. Bradbury,
Connecting with OCEAN QUEEN, Capt. Welr.

Cabin passengers berthed through. Baggage checked
through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attend-
ance free.

These steamers will positively sail at 11 o'clock. Passen-
gers are requested to have their baggage on board before 10
o'clock.

Through Tickets for Liverpool by the Inman Line, can
be obtained at office P. M. S. S. Co., San Francisco.
For Merchandise and Freight apply to Messrs. WELLS,
FARGO & CO.

22nd—The splendid steamship COLORADO will be dis-
patched for CHINA on TUESDAY, JANUARY 1, 1867.
For passage and all other information, apply at the Pacific
Mail Steamship Co's office, corner of Sacramento and
Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

MOUNT DIABLO COAL.

CHEAP FUEL!

Cheaper than the East.

From the Independent Mine, at \$10 per ton.

GREENHOOD & NEWBAUER,

Nos. 207 and 209 Sansome street, between California
14v13-3m and Pine.

Delays are Dangerous.—Inventors on the Pacific
Coast should bear in mind that by patronizing our Patent
Agency they can sign all necessary papers for securing pa-
tents almost immediately, thereby avoiding the three
months' delay requisite in transacting business through
Eastern agencies.

New Mining Advertisements.

Arbitros Mining Company, Batopilas Dis-
trict, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the thirty-first day of
October, 1866, an assessment (No. 12) of one dollar and a
half (\$1.50) per share was levied upon the assessable capital
stock of said Company, payable immediately, in United
States gold and silver coin, to the Secretary, at his office,
No. 811 Montgomery street, up stairs, San Francisco, Cal.
Any stock upon which said assessment shall remain un-
paid on the fourth day of December, 1866, shall be deemed
delinquent, and will be duly advertised for sale at public auc-
tion, and unless payment shall be made before, will be sold
on Saturday, the twenty-second day of December, 1866, to
pay the delinquent assessment, together with costs of adver-
tising and expenses of sale. By order of the Board of
Trustees.

A. MARTINON, Secretary.

Office, 811 Montgomery street, San Francisco, Cal.

N. B.—Until further notice, all advertisements of this
Company will appear in the "Mining and Scientific
Press." n03

Chilpaneca Mining Company—District of Ures,

Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the thirty-first day of
October, 1866, an assessment of five (\$5) dollars per share
was levied upon the capital stock of said Company, pay-
able immediately, in United States gold and silver coin, to
the Secretary, at his office, No. 318 California street, up
stairs, San Francisco, Cal.

Any stock upon which said assessment shall remain un-
paid on the first day of December, 1866, shall be deemed
delinquent, and will be duly advertised for sale at public
auction, and unless payment shall be made before, will be
sold on Monday, the seventeenth day of December, 1866,
to pay the delinquent assessment, together with costs of ad-
vertising and expenses of sale. By order of the Board of
Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, Up stairs, San Francisco, Cal-
ifornia. n3

Cosala Silver Mining Company—Location of

Works: Cosala District, State of Sinaloa, Mexico.

Notice.—There are delinquent, upon the following de-
scribed stock, on account of assessment levied on the
twenty-ninth day of September, 1866, the several amounts
set opposite the names of the respective shareholders, as
follows:

Name	No. Certificate	No. Shares	Amount
Arcy Walter W.	451	60	\$30 00
Arcy Walter W.	458	20	20 00
Bayless J. H.	61	100	100 00
Bayless J. H.	62	100	100 00
Bayless J. H.	63	206	206 00
Gildemeister W.	697	18	18 00
Gildemeister W.	610	14	14 00
Kleinhaus T.	568	20	20 00
Knox Geo. T.	630	20	20 00
McConn Annie R.	469	10	10 00
McDermott John.	571	5	5 00
McDermott John.	576	45	45 00
Moran Thomas A.	694	10	10 00
Moran Thomas A.	692	15	15 00
Thompson J. D.	477	103	103 00
Thompson J. D.	551	349	349 00
Thompson J. D.	552	135	135 00
Thompson J. D.	553	50	50 00
Thompson J. D.	554	25	25 00
Thompson J. D.	555	25	25 00
Thompson J. D.	624	20	20 00
Webb Francis A.	627	60	60 00

And in accordance with law, and an order of the Board of
Trustees, made on the twenty-ninth day of September, 1866,
so many shares of each parcel of said stock as may be neces-
sary, will be sold at public auction, at the auction rooms of
Maurice Dore & Co., 327 Montgomery street, San Francisco,
Cal., on the nineteenth day of November, 1866, at the hour
of 12 o'clock, M., of said day, to pay said delinquent assess-
ment thereon, together with costs of advertising and ex-
penses of sale.

CHARLES BAUM, Secretary.

Office, No. 610 Battery street, opposite the Custom House,
San Francisco, Cal. n03

Humboldt Gold and Silver Mining Company,

Sierra District, Humboldt County, Nevada.

Notice.—There are delinquent, upon the following de-
scribed stock, on account of assessment levied on the
twentieth day of September, 1866, the several amounts set
opposite the names of the respective shareholders, as fol-
lows:

Name	No. Certificate	No. Shares	Amount
A. W. Macpherson	213	118	\$226 10
John H. Torrey	145	100	200 00
John H. Torrey	210	16	32 00
John A. McQuaid	3	5	10 00
John A. McQuaid	4	5	10 00
John A. McQuaid	5	5	10 00
John A. McQuaid	6	5	10 00
John A. McQuaid	7	5	10 00
John A. McQuaid	212	5	10 01
John A. McQuaid	215	10	20 00
John A. McQuaid	216	10	20 00
Chr. Baum	87	3	6 00
Chr. Baum	279	7	14 00
M. Dore	69	15	30 00
Fung Tang	14	5	10 00
Wong Yee	44	3	6 00
E. H. Plunk	135	1	2 00
J. P. Hathman	92	10	20 00
J. P. Hathman	163	6	12 00
W. Richardson	93	5	10 00
A. H. Loy	99	3	6 00
King Yee	96	2	4 00
Max Armer	120	10	20 01
Max Armer	126	5	10 00
Max Armer	127	10	20 00
C. Klitgaard	131	2	4 00
C. Klitgaard	166	3	6 00
G. Lanata	132	5	10 00
J. J. Hudson	154	10	20 00
H. J. Hudson	155	5	10 00
W. C. Belcher	192	10	20 00
A. Clayburgh	229	25	50 00
E. Prabl	233	10	20 00
G. Davidson	242	21	42 00
J. P. Tommerup	255	3	6 00
M. Taitzeon	289	8	16 00
Miss B. E. Taitzeon	294	4	8 00
W. Richardson	275	50	100 00
M. Berkowitz	235	5	10 00

And in accordance with law, and an order of the Board of
Trustees, made on the twentieth day of September, 1866, so
many shares of each parcel of said stock as may be neces-
sary will be sold at public auction, at the auction room of
Maurice Dore & Co., No. 327 Montgomery street, San Francisco,
Cal., on the twenty-seventh day of November, 1866, at the hour
of 12 o'clock, M., of said day, to pay said delinquent assess-
ment thereon, together with costs of advertising and expenses
of sale.

G. O'HARA TAAFFE, Secretary.

Office, No. 430 California street, San Francisco. n03

Volunteer Twelfth—The Mining and Scientific Press

with its last issue, commenced its twelfth volume. Since
Dewey & Co. have "held the ribbon" its gait has been
rapid toward a perfect journal. Its appearance evidences
its prosperity, but doubtless, like some of the rest of us,
it can stand increased encouragement. Let such his given,
and our word for it, volume thirteen will acknowledge
receipt.—[Golden Era.]

MINING AND SCIENTIFIC PRESS.—We received a visit a few
days since, from Mr. Wood, agent for the MINING AND SCIENTIFIC
PRESS, who is now canvassing this county for sub-
scribers to that valuable journal. The Press is invaluable
to miners and mechanics, being the only journal of any
importance on the coast entirely devoted to their inter-
ests.—[Mountain Messenger.]

I. X. L. Gold and Silver Mining Company, Silver Mountain District, Alpine County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-ninth day of September, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
J. H. Williams, estate.	14	25	\$37 50
J. H. Williams, estate.	15	4	6 00
W. J. Johnson.	23	4	6 00
Wm. Eastman.	24	5	7 50
Wm. Eastman.	25	5	7 50
Wm. Eastman.	26	5	7 50
J. F. Davis, estate.	28	5	7 50
J. F. Davis, estate.	29	5	7 50
Richard Luch.	34	40	60 00
Richard Luch.	35	35	52 50
Richard Luch.	36	20	30 00
Richard Luch.	38	6	9 00
William Upple.	40	10	15 00
Sam Ockers.	41	10	15 00
Sam Ockers.	42	10	15 00
Sam Ockers.	43	3	4 50
Sam Ockers.	44	3	4 50
Sam Ockers.	45	3	4 50
Sam Ockers.	46	1	1 50
Walter Puckey.	47	10	15 00
Walter Puckey.	48	5	7 50
Walter Puckey.	49	5	7 50
John Richards.	50	5	7 50
John Richards.	51	5	7 50
Lewis Fisher.	52	10	15 00
O. Tanner.	53	15	22 50
O. Tanner.	54	10	15 00
C. C. Phillips.	55	5	7 50
Ivor Hanson.	56	1	1 50
Ivor Hanson.	57	1	1 50
Ivor Hanson.	58	1	1 50
C. Olson.	59	1	1 50
M. Davidson.	60	4	6 00
Wm. Davidson.	61	4	6 00
Wm. Davidson.	62	4	6 00
John Warner.	63	5	7 50
Joseph Bray.	64	14	21 00
James Barron.	65	13	19 50
P. H. Ockers.	66	13	19 50
Thos. Prik.	67	13	19 50
John Hogan.	68	7	10 50
John Hogan.	69	7	10 50
John Hogan.	70	7	10 50
John Hogan.	71	7	10 50
John Hogan.	72	7	10 50
John Hogan.	73	7	10 50
John Hogan.	74	7	10 50
John Hogan.	75	7	10 50
John Hogan.	76	7	10 50
John Hogan.	77	7	10 50
John Hogan.	78	7	10 50
John Hogan.	79	7	10 50
John Hogan.	80	7	10 50
John Hogan.	81	7	10 50
John Hogan.	82	7	10 50
John Hogan.	83	7	10 50
John Hogan.	84	7	10 50
John Hogan.	85	7	10 50
John Hogan.	86	7	10 50
John Hogan.	87	7	10 50
John Hogan.	88	7	10 50
John Hogan.	89	7	10 50
John Hogan.	90	7	10 50
John Hogan.	91	7	10 50
John Hogan.	92	7	10 50
John Hogan.	93	7	10 50
John Hogan.	94	7	10 50
John Hogan.	95	7	10 50
John Hogan.	96	7	10 50
John Hogan.	97	7	10 50
John Hogan.	98	7	10 50
John Hogan.	99	7	10 50
John Hogan.	100	7	10 50

And in accordance with law, and an order of the Board of Trustees, made on the twenty-ninth day of September, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 333 Montgomery street, San Francisco, on the twentieth day of October, 1886, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JAMES C. DAYLEY, Secretary.

Office, No. 333 Montgomery street, San Francisco, Cal.

no3

Mining Notices—Continued.**Adella Gold Mining Company, Rock Creek, Sierra County, California.**

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of October, 1886, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in gold coin, to the Secretary, at 410 Market street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and if payment is not made before, will be sold on Saturday, the twentieth day of December, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. C. TAYLOR, Secretary.

Office, 410 Market street, San Francisco, Cal.

no37

Coan Silver Mining Company, Coan District, State of Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-ninth day of September, 1886, an assessment of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in gold coin of the United States, to CHAS. BAUM, Secretary, at the office of this Company, No. 510 Battery street, opposite the Custom House, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of October, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the nineteenth day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

CHAS. BAUM, Secretary.

Office, No. 510 Battery street, opposite the Custom House, San Francisco, Cal.

1519-1w

Ethan Allen Gold and Silver Mining Company, Location of Works, Austin, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of October, 1886, an assessment of fifty cents (50) per share was levied upon the capital stock of said Company, payable October sixth, 1886, in United States gold and silver coin, to the Secretary, at the office of the Company, 620 Washington street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the sixth day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of November, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. B. CONGDON, Secretary.

Office, 620 Washington street, (Room 5) San Francisco.

no6

Favorable to Investors.—Persons holding new features of machinery and important improvements, can have the same illustrated, and explained in the Mining and Scientific Press, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

Owing to its general circulation, the MINING AND SCIENTIFIC PRESS has perhaps been as valuable and useful to the mining community as any other paper. The London "Lancet" was to the medical profession, acting either as a scarifier when too great a plethora of minia bubbles prevailed, or as a styptic when dangerous bleeding of the pockets of the capitalists was coerced. (Copperopolis Courier, Oct. 13.)

Postage.—The postage on the MINING AND SCIENTIFIC PRESS to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in foreign countries. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

Great Central Mining Company—Location of Works: Yuma County, Arizona Territory.

Notice is hereby given that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of October, 1886, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 302 Montgomery street, San Francisco, Cal., from 4 to 5 P. M.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of November, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the third day of December, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

Office, No. 302 Montgomery street.

GEORGE WASHINGTON GOLD AND SILVER MINING COMPANY, Silver Mountain District, Alpine County, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the seventeenth day of September, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alldorfer Geo.	163	1	\$1 50
Alldorfer Geo.	164	1	1 50
Arnold W. W.	165	1	1 50
Howland Wm.	241	1	7 50
Boggs A. J.	67	11	27 00
Cook A. J.	23	10	15 00
Deunin J. H.	27	10	15 00
Elsworth Wm.	180	5	7 50
Grady T. L.	99	10	23 00
Grady T. L.	100	10	23 00
Grady T. L.	101	10	23 00
Grady T. L.	102	10	23 00
Grady T. L.	103	10	23 00
Grady T. L.	104	10	23 00
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Grady T. L.	249	10	23 00
Grady T. L.	250	10	23 00

And in accordance with law, and an order of the Board of Trustees, made on the seventeenth day of September, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on Monday, the fifth day of November, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. O. WOOD, Secretary.

Office, 333 Montgomery street, San Francisco.

no29

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Fram; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity, "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

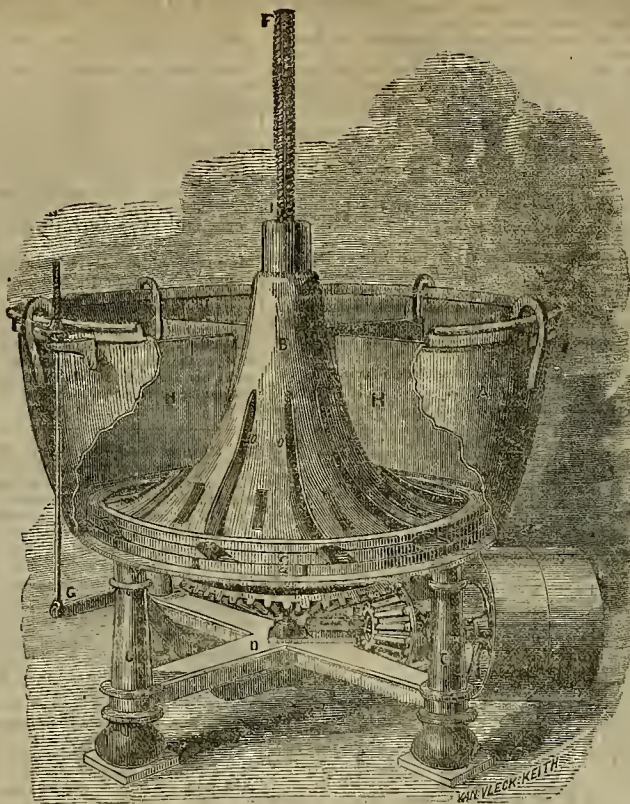
Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been burned. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,
WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

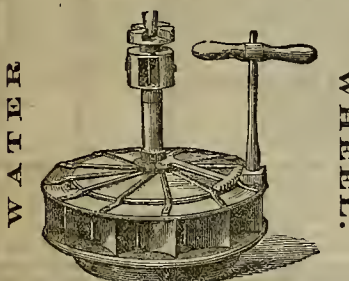
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
171 San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction wherever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to
KNAPP & GRANT,
—ALSO—
San Francisco.

Leffel's Lever Jacks,
For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind.
For sale by
KNAPP & GRANT,
1212-3m San Francisco.

To Ditchmen, Millmen and Others Requiring
IRON PIPE.

M. E. ROSE, CORNER OF 9TH AND K STREETS,
Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground.
1912

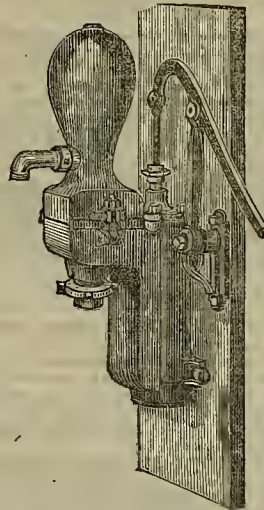
STODDARD'S CELEBRATED WATER FILTERS!

PURIFY RAIN, RIVER, OR SPRING VALLEY WATER
It perfectly purifies and healthy. Three sizes. Price, \$14, \$16 and \$18. For sale by
S. B. STODDARD,
Corner of Battery and Pacific streets.
2512-3m

June 25, 1896.

The Hansbrow Pumps

ARE WARRANTED THE



BEST PUMPS OFFERED.

All Sizes, for any Purpose,
FOR SALE BY
LOCKE & MONTAGUE,
112 and 114 Battery Street,
SAN FRANCISCO.
1613-2m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada. Parties wishing to erect such Furnaces, are requested to leave their orders with
T. KALLENBERG,
1912 418 Market street, San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDARD'S IRON WORKS,

114 Beale Street, San Francisco.
23v12-3m

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery
OF ALL KINDS.

Especial attention given to **Quartz Mill Machinery** and **Findings**, and **Miners' Material** of every description.

Being a **PRACTICAL MACHINIST**, and giving my personal attention to the execution of orders, I can guarantee the **BEST** class of work at the **LOWEST PRICE** in the city.

Refer, by permission, to—

Governor F. F. Low;	Coffey & Risdon, San Francisco;
C. T. Meader, Stockton;	Geo. K. Glavas, Chief Engineer of Cal. S. Nav. Co., San Francisco.
Jacob Underhill & Co., San Francisco;	
J. W. Stowe, Russell & Erwin Manufacturing Company;	
Office, No. 120 Front street, San Francisco.	4v12

FOR SALE!

QUARTZ AND MINING MACHINERY.

ONE GARDNER'S THUNDERBOLT CRUSHER, LARGEST size and best quality; is entirely new, with all extras— with a large lot of other Quartz Machinery, including Engines, Boilers, etc.
16v12

COFFEY & RISDON.

Notice to Miners,

Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.
M. PRAG,
8v13-1y Stove Store, No. 125 Clay street, below Davis.

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. One to three-ply Hose made. All orders punctually attended to.
aull-1y

S. HOWARD,
326 Davis street, San Francisco.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by
THOMAS H. SELBY & CO.,
22v12-3m Nos. 116 and 118 California street

Economy in Advertising.—The **MINING AND SCIENTIFIC PRESS** is the best and most economical mining advertising medium in this city. Our terms are less than one-half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

AUSTRALIAN GEOLOGY.—The Melbourne, Australia correspondent of the *Bulkein*, writing under date of August 28th, has been paying some attention to the geology of that country. He says: I had recourse to the Government geologist, a very communicative gentleman, in the receipt of a very handsome salary (\$10,000 per annum), and who has no wish to make himself unpopular, at the same time that he is desirous of keeping up that dignity which should become so well paid an office, and exercises a proper reticence when giving opinions which enhances their value by showing the results of much information and grave deliberation. You may be assured that he has an excellent opinion of the auriferous nature of this country, and has, like all men of scientific mind, got up his theory—"the quartz reef theory"—upon which he has published a report; and as it may be suggestive to Californians I give an extract. He says:

During the progress of my geological survey, deposits, from a mere capping to over 300 feet thick, have been met with in several localities, from sea-level to an elevation of 4,000 feet. These consist of beds of clay, sand, cement or conglomerate gravel and large boulders, water-worn and composed either of quartz, quartz rock, or hard siliceous sandstone. They rest on the ordinary slates and sandstones (Silurian) of the gold fields, and are often in the vicinity of rich gold-bearing quartz reefs. They appear to be of the miocene age, and ought to be auriferous. But (the report goes on to say), numerous shafts have been sunk and levels driven into them in the most likely places in various localities, both by miners and by the Geological Survey parties, but always with an unsuccessful result. In some places they occur in close proximity to rich quartz reefs, and the more ancient alluvial deposits near the same reefs are also auriferous, while every attempt, and many have been made, to find paying gold in the older gravels, either on the hills or in the valleys, has proved unsuccessful.

So much for this scientific gentleman's investigation in this part of the world.

Another great geologist contends that gold may be found as low down as the carboniferous period, though no Australian miner has yet mentioned a single instance of having found gold in drifts older than the pliocene. The Australian savans say that whereas in the earlier times the earth seems to have vomited forth rocks of a granitic texture, in the secondary age greenstone and porphyry, and in the tertiary period basalts of various kinds were nearly the only instances of igneous products poured forth from the earth's interior; whilst in these degenerate days modern volcanoes content themselves with discharging ashes. They contend that even in metallic veins this variety is apparent, and that there are plenty of instances of those veins cutting each other; one contains tin, a second copper, and a third some other mineral. And it is further asserted that there is strong presumptive evidence to show that quartz veins are being found at the present day which may or may not be impregnated with metallic substances.

THE MANGANESE MINE.—Captain Faill writes thus to the *Atlas* of the manganese mine at Red Rock, in San Francisco bay, twelve miles from the city:

The mine is owned by the "California Manganese Mining Company." Several prospect pits have been sunk on the property and also shallow drifts, to the extent of some few feet, but the main tunnel is situated near high water mark, from one hundred and fifty feet to two hundred feet below the summit of the rock. This tunnel has been extended forty feet southwards, cutting two splendid lodes of manganese, denominated as the "front ledge" and the "back ledge." In the front ledge operations have been carried on for the past two months. The fullness of the ledge is demonstrated by the fact that in three weeks five miners extracted upwards of sixty tons of first-class ore, the market price of which is thirty dollars per ton. There is no doubt that this class of ore continues through the length and height of Red Rock Island. Such being the case, 3,200 tons of manganese will not exhaust what is known to exist in this valuable mine; neither will \$96,000 be overating the value of the mineral standing above high water mark. The ore is extracted by contract at ten dollars per ton, the contractor agreeing to pay all expenses from the raising of the ore to its delivery at San Francisco.

A NEW PROCESS for manufacturing lucifer matches has been brought before the French Academy. The wooden slips are first plunged into phosphorus and afterwards into sulphur, thus reversing the ordinary mode of preparation.

A SINGLE ounce of gunpowder, placed at an angle of forty-five degrees, is capable of projecting a 24-pound cannon ball a distance of three hundred and fifty yards.

LEDGES "CAPPING OUT."—The Nevada Gazette has the following: We were conversing yesterday with a practical miner who has spent several months during the present season in Meadow Lake district, and in whose opinions and judgment we place reliance. He does not regard the ledges as having been sufficiently opened to establish the future of the district. A large number of ledges contained the richest quality of rock near the surface, but in sinking upon many of them, the wall rock closed in, and the ledges apparently pinched out. This feature of the ledges is well known there, though little is said of it to outsiders; but it has a tendency to discourage the owners from opening and exploring their mines. A similar peculiarity exists in the quartz mines of Colorado Territory. It is quite common there for the walls to curve in such a manner as to apparently cut off the ledges; but then they always find the ledges again by sinking deeper upon the regular line of the dip. It is called there "capping out," and at first caused a great deal of surprise and discouragement. Now, however, when a ledge caps out the owner strikes through the wall rock, certain of finding it below. The experience of the Colorado miners ought to encourage mine owners at Meadow Lake to persevere, and sink through the cap rock. An instance was never known of a regular mineral vein giving out in depth, though the dip frequently curves, or varies from a straight line, and even the largest ledges sometimes pinch down to mere seams.

MINING PATENT SUIT.—R. H. Dunning, of Bridgeport township, has brought suit in the United States District Court against Jenkin Morgan, for infringement of a patent in constructing and using the Separator or "Under Current," for which Dunning has a patent. The machinery is constructed in the bottom of the sluice boxes, and is used for separating the black sand and fine particles of gold from the tailings. The defendant claims that plaintiff is not the inventor of the machine, but adopted an old and well established principle, as applied in the "Old Grizzly," and other similar contrivances of the miners in early days. The testimony will be of considerable length, J. B. Johnson, Esq., of North San Juan, having already taken about four hundred folios of depositions.—*Nevada Transcript*, Oct. 27.

Auction House.—Messrs. Olney & Co. have opened a General Auction and Commission House, No. 413 Montgomery street—a very central and convenient location. Mining and other Corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Besides every kind of auction business, this firm will pay special attention to the purchase and sale of real estate in Oakland.

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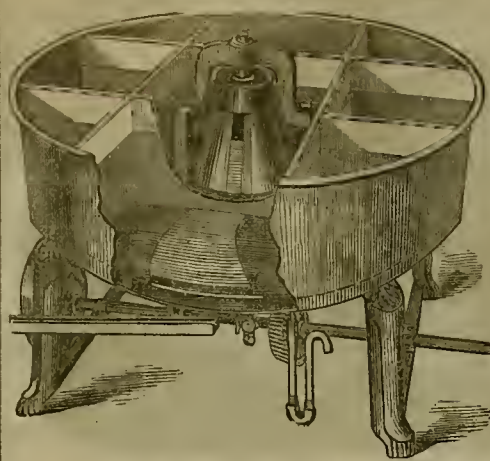
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CAUTION!

NOTICE TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1861, and issued June 27th, 1863, to Professor Henry Wurtz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

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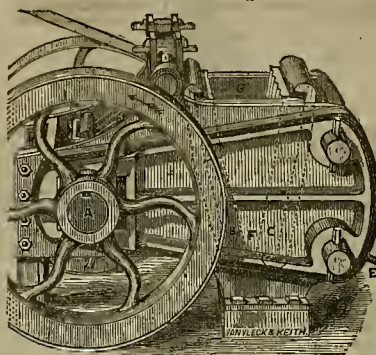
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No. 3.—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

EXPLANATION OF THE ABOVE ENGRAVING.

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, drives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:

Rawhide Ranch, Tuolumne Co., Sept. 25, 1863.
JAMES BRODIE, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's mill, which is entirely met my expectations; and I have no hesitation in recommending to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,
Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1861. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st No. vember, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel per year.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1865.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

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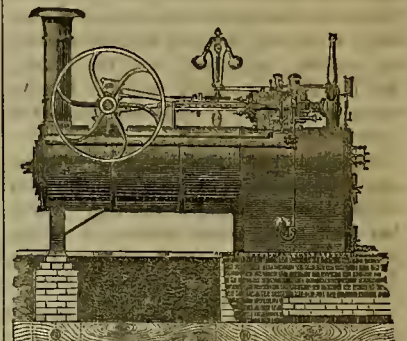
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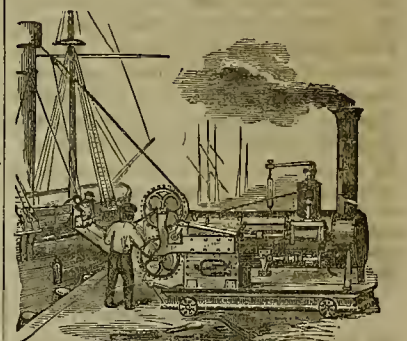
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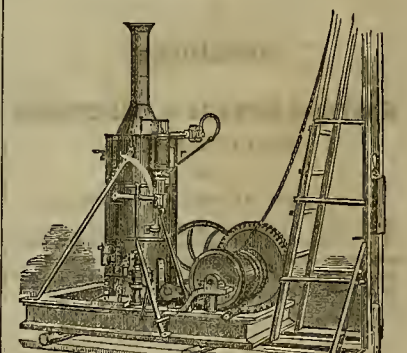
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KUSTEL & PETERSON'S CONCENTRATOR.—This self-discharging concentrator is a peculiar percussion table. It seems to be derived from a percussion buddle, of which it represents a segment brought into a square shape, acting on the same principle as the buddle, but differing in a main point. Whilst the latter is inclined toward the periphery, the segment has a reverse pitch, so that the feeding is applied on the end representing the periphery. The pulverized stuff is conveyed over a distributor on the table, where it follows the impulse of the water downward; but the denser or ore-particles are diverted to a transversal course by the percussion, which has less effect on the lighter or gangue particles. The force of the percussion decreases as it is nearer to the center of the circular motion; and this seems to be an important item, as it is known that different grain sizes of the same mineral require a different force of the percussion. In this respect, Kustel & Peterson's concentrator differs also materially from Rittinger's percussion table. The separation of ore from gangue by this concentrator, which is very simple in its construction, appears comparatively perfect, and it is not only eminently adapted to receive the crushed ore direct from the battery, but it will be especially desirable in mills where unroasted ore is being amalgamated in pans for saving sulphurets, and especially the fine quicksilver and amalgam which may escape. This machine can be seen in operation at the Miners' Foundry, in this city. Action has been taken toward securing a patent, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

SAFETY FUSE.—In an article on the California Powder Works in Santa Cruz county, the *Bulletin* speaks of the necessity which exists for the establishment of a safety fuse manufactory on the Pacific coast. Up to this date, all of that article used has been imported. The great bulk of it comes from Connecticut; a small portion from Great Britain. The consumption for mining and railroad purposes is immense—millions of feet being used annually. This fuse, on its voyage of importation to this market, is very liable to dampness, from sweating or sea air, and used in its often imperfect condition has been the frequent cause of loss of life and bodily injuries. It is safe to estimate that at least one-half of the accidents resulting from blasting on the Pacific coast have been caused by damaged fuse.

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HUNGERFORD'S IMPROVED CONCENTRATOR,

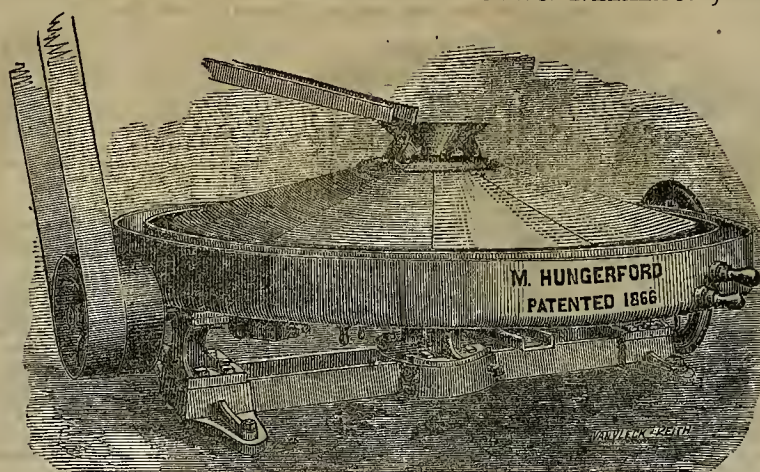


FIG. 1.

For Saving Gold, Sulphurets, Quicksilver, Etc.

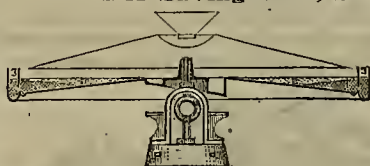


FIG. 2.

have been tried, and many abandoned; all of which have been unable, so far, to attain a profitable separation, and improvement on the well-known Hungerford & Prater Concentrator, with which his name is already so familiar. The separating or concentrating action is obtained by centrifugal force and gravitation; the pulp being preserved by water in the proper condition for the operation, and the pan so constructed, mechanically, as to allow the centrifugal force and gravity to expend themselves to the best advantage in producing the separation, as well as to make the machine simple, compact, and easily kept in order.

Fig. No. 1 is a perspective view of the Concentrator while in operation, showing the general arrangement. Fig. No. 2 is a section through the centre of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

Its operation is as follows: The pulp flows from the spout through the filter into the bowl at the top, from which it is distributed equally over the convex cover into the pan near its outer edge. The lightest sand is at once carried off with the overflowing water through the centre opening, and the sulphurets are allowed, from the motion given to the machine, to gravitate to the bottom toward the outer edge, forming an embankment all around the pan, as represented at 1, 1, Fig. 2. The lighter particles of the sand arranging themselves on the top at 2, 2, Fig. 2, from which they are being constantly washed away with the water flowing through the central opening. The sulphurets are, by the centrifugal motion of the machine, made to pass through small openings at the bottom, at intervals of a few inches around the circumference, through the inner wall of the pan to the circular trough, 3, 3, Fig. 2, where they come in contact with the mercury at the bottom, depositing the free metal, from which it is drawn at pleasure by an opening in the bottom, and the sulphurets, in the order of their density, by openings in the sides.

It will be observed that the sulphurets in the trough, 3, 3, are maintained at the same elevation as the sulphurets and overlying sand in the body of the pan. It will be further observed, that by no possible means can the sand in the latter pass to the former in such quantities as to form any considerable percentage of the amount saved. The advantages of this improved pan are continuous action, requiring no attention except to remove the receiving vessels as fast as they are filled from the openings shown on the right of Fig. 2, simplicity in construction, and durability and cheapness of cost.

The pan derives its motion from two eccentrics secured on a horizontal shaft passing across and below the centre of the pan and working between two pairs of adjustable wooden guide blocks or bearings. The eccentrics are so made as to bear equally on the wooden guide blocks in all positions while in motion; giving to the pan the most desirable motion for its purpose, and doing away with all complexity of rods, cranks, wooden frame, etc.

These pans are now being introduced into the best mills in the country. Reference to parties who have tested them can be had by applying to the manufacturers.

Those interested in mining, and who call at the Miners' Foundry to see the one which is there in operation, will have no reason to regret their visit.

San Francisco, June, 1866.

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Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

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Endorsement by the Miners' State Convention

The following resolution was adopted by the California Miners' State Convention, held at Sacramento, Jan. 17th, 1866:

Resolved, That we regard a mining paper or journal of great importance to the mining interest of California, and we recommend the MINING AND SCIENTIFIC PRESS, of San Francisco, to the consideration and support of the miners of the Pacific coast.

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SAN FRANCISCO, SATURDAY, NOVEMBER 10, 1866.

VOLUME XIII.
Number 19.

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NOTES OF TRAVEL.

NUMBER ONE.

Desirous of obtaining a few days of respite from the ceaseless toil of editorial life, we stepped on board this morning train for San Jose, on Friday of last week, and were soon whirling along the iron track to the pretty little village of Santa Clara, where we took stage for Lexington. A trip through the San Jose Valley, just previous to the full rains, is nothing but a pleasant ride to most people, on account of the clouds of dust which every vehicle is sure to carry with it at that season of the year. To one, however, who had never visited that garden spot of California, there was so much of interest to see and learn, that the dust and dirt was almost unnoticed.

The first thing that attracts the attention of the traveler, after passing the suburbs of the town, is the bold range of mountains directly in front and separating the San Jose Valley from Santa Cruz and the sea coast. These mountains rise boldly up from the plains, and present a surface almost entirely divested of trees or shrubbery of any kind, and seemingly interpose an almost insurmountable barrier to wagon locomotion in that direction. Journeying along, however, at first through orchards and vineyards almost innumerable, in a black adobe soil, the traveler soon finds himself passing through an open plain, covered at this time of the year with one broad expanse of wheat stubble, divided up into large square fields, each field constituting a good sized farm. The huge piles of straw and heavy remnant of stubble attest to the abundance of the past season's crop, and give unmistakable indications of the point from whence has been received a large portion of those immense piles of grain, which may be seen covering the wharves and filling to overflow the huge warehouses along our city front.

As we advance toward the mountain, the soil gradually assumes a gravelly character, giving unmistakable evidence of the great pluvial action, which at some former period has carved out the deep ravines, which at our near approach begin to form so prominent a feature on the naked mountain slope. The altered character of the soil is also apparent in the evidence of thinner crops, and frequent groves of oak, interspersed here and there with thick chaparral, which grows some three or four feet in height, and is sustained by a thick clumpy root, which, by its slow growth, is of so firm a texture as to be almost equal to coal for fuel. We were told that this root was so easily removed from the soil and so abundant, that laborers were willing to clear the land of the chaparral for the fuel thus obtained. Much of the land, when thus cleared, will produce a very good growth of wheat; and with a small part of the cultivation and dressing bestowed upon land in the New England States, might be made to produce first class crops.

LExINGTON CANON.

About ten miles from Santa Clara we strike boldly into the mountains, through a narrow defile, along which a most excellent grade has been constructed at much labor and cost. This portion of the road calls forcibly to mind the

grade over the Placerville route to Washos, and excites in the mind of the timid traveler no little uneasiness lest the vehicle in which he sits may at some unlucky turn be suddenly plunged down the steep hillside into the canon below. In order to add interest to such reflections, one of our fellow passengers took especial pains to point out the locality where the stage was upset, a few weeks previous, while whirling around one of those sharp turns, and by which accident several ladies from this city were seriously injured. Upon one, however, who had passed over the Sierra Nevada by three or four different routes, and "come the plains across," such tales had but little effect. About two o'clock in the afternoon we found ourselves snugly ensconced in the domicile of an old friend, Mr. Stillman Thomas, one of the pioneer lumbermen in this canon. This is the principal locality from whence has been derived the redwood lumber, which has found its way in such immense quantities to San Jose and Santa Clara for the past sixteen years.

ANCIENT SAWMILL.

About two miles from the mouth of this canon, may still be seen the frame of an old sawmill, the construction of which ante-dates the famous Sutter mill at Coloma, and for ought we know to the contrary, may have been the first mill ever constructed in California. At that time the entire west bank of the canon was covered with a dense growth of redwood, which makes, for common purposes, the best lumber in the world. Much of this growth was very large.

BIG TREES.

We saw the stump of one tree which was cut down a few days previous, that measured fully thirty-six feet in circumference, three feet from the ground. The trunk, at a length of 160 feet from the stump, measured four feet in diameter; above that point the tree was broken into fragments in falling. We counted the number of annular rings of these trees to the inch, in several different localities, and found the average not far from thirty-five to the inch. That number would give the tree above mentioned an age of over 2,000 years! Calculating from the same basis, some of the big redwood trees of Calaveras would ante-date even the creation, placing that event at the point of time fixed for it in Archbishop Usher's chronology, adopted in King James' translators of the Bible.

The magnificent forest growth which formed the crowning feature of this canon ten years ago, has now almost entirely disappeared, and by another winter the sound of the saw will scarcely be heard throughout its entire length. It will, however, for years to come, continue to furnish large amounts of fencing stuff and fuel. There is no doubt but that

THE VINE WOULD FLOURISH

Here to much greater perfection than in the neighboring valley. To our mind the people of California are making a great mistake in planting vineyards in the valleys and on the plains. The hills and mountains furnish the best locality for grapes, especially when they are raised for making wine. We read of the vine-clad hills of France and Italy—never of the vine-clad plains. Let our wine-growers leave the plains to orchardists and the growers

of wheat and vegetables. The time will soon come when all that kind of land will be needed for such purposes.

Dr. McMurtrey, of Lexington, we are pleased to observe, has been experimenting with the vine on his ranch, which occupies a little opening about midway of the canon. He informed us that he had found it impossible to cultivate grapes successfully at a point lower than about 300 feet above the lowest portion of the canon, on account of the frost. After ascending to about that height, the ground is free from frost, and the vine flourishes in its greatest perfection. His example and success should encourage others. We feel quite well assured that this canon presents one of the finest points for vine culture in the entire county. The soil is rich, well watered and drained, entirely free from fogs, and also from frost, above the height mentioned.

AN AERIAL RIVER.

The frost in the lower portion of the valley is undoubtedly due to a current of cold air, which forms, in fact, a cold aerial river of some three hundred feet in depth, varying in width according to the inequalities of the canon, and which is constantly pouring over the divide from the ocean beyond Santa Cruz, and flowing down the declivity of the canon, until it is spread out and lost and warmed in the plain below. Above the surface of this aerial current, and below the fog which often covers the mountain tops, but does not descend far down the sides of the canon, is the belt of land along which the vine will grow, and which might thus be turned to a most profitable account—much better than to be deserted, as it now promises to be as soon as the timber is all removed. We have numerous other "notes of travel" taken during our trip, which we shall endeavor to find room for in future numbers.

MUNICIPAL REPORTS.—We acknowledge the reception of the San Francisco Municipal Reports for the fiscal year ending June 30, 1866, and published by order of the Board of Supervisors. The publication forms a volume of 430 pages of carefully prepared statistical matter, detailing the condition of the city debt, the city litigation, the mortality reports, street work, etc., which will be found indispensable to every person who would become intimately acquainted with the condition and progress of the municipal affairs of this city.

HANSBROW'S PUMPS.—These pumps are made at the San Francisco Foundry, and we never go into that establishment without seeing numbers of them in progress of construction. The demand for them must be large, affording evidence that the long time which they have been in use has tended to establish their reliability and value. They are simple in construction, and well made. Buyers may always know where to get these pumps, as well as other really valuable machinery, by consulting the advertising columns of the MINING AND SCIENTIFIC PRESS.

CEMENT MINES.—See our mining summary for new and probably extensive cement discoveries in Sacramento county. Are the days of '54 coming again?

California Academy of Natural Sciences.

REGULAR MEETING, Monday, Nov. 5, 1866.
President in the Chair.

Fifteen members present.

Rev. S. D. Simonds and Dr. J. Morrison were elected resident members, and Dr. W. P. Gibbons, of Alameda, corresponding member.

Mr. Bolander presented for exhibition a curiously fruited specimen of *quercus densiflora*, the acorns being about one third the ordinary diameter, though nearly the usual length, and having a peculiar constriction near the apex.

Mr. Stearns exhibited a specimen of an *Aspitylon*, caught in the Ochotsk Sea, off Cape Lepatka, Kamschatka, by the crew of the fishing brig Angenette.

Dr. H. Gibbons called the attention of the Academy to the near approach of the season during which we might look for the recurrence of the "meteoric shower," which he witnessed in the year 1833.

Many interesting remarks were made by Messrs. Gibbons, Keyes, Kellogg and others, in reference to the phenomenon of meteors, and considerable discussion as to the various ideas and theories in connection with the same by different authors.

Mr. Stearns also exhibited several specimens of *Acmea asmi*, Midd., collected by him at Baulines Bay; remarking that upon a recent trip to the locality named, he found this species exceedingly numerous, attached to *Chlorostoma funebre* A. Ad.; that he had not seen in a single instance this *Acmea* upon the rocks; neither had he observed any other species of *Acmea* upon a living specimen of this *Chlorostoma*. Mr. Stearns further submitted for the inspection of the Academy, a specimen of *Haliotis Cracherodii*, which he had collected alive last month, on the rocks near the outlet of Lobitas Creek into the ocean. The *Haliotis* had been attacked by a *pholad*, probably *Navea Newcombi*, and had defused itself by adding coating upon coating of nacre, as the *Navea* progressed, until a large knob or protuberance had been created in the interior of the shell. From a partial examination of the borer, a specimen of which he had dug out from another portion of the same *Haliotis*, he believed it to belong to the species recently described by Mr. Tryon, viz: *Navea Newcombi*. Adjourned.

OUR PAPER.—Hereafter our patrons may expect to find the PRESS constantly printed on a superior quality of white paper, shipped regularly to our order from New York. Although we have used the very best quality, at all times, attainable in this market, we have frequently felt mortified with the dingy and flimsy character of the paper we were compelled to use. It is our aim to issue the best looking paper on this coast.

THE Board of State Capitol Commissioners adopted resolutions exonerating G. P. Cummings, the architect, from all blame on account of the settling of the walls, and attributed it to a defect in the work for which the original architect is responsible.

A DESIRABLE ARTICLE.—Dr. Boynton's Medicine Chest, advertised to-day.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Notes on the Chief Gold Districts Throughout the World.

BY PROFESSOR ROWLANDSON, F. G. S. L.

[Continued from Page 226.]

Time and space only permit a rapid glance at the principal gold fields hitherto unnoticed in the course of these sketches; before doing so, it may, however, be remarked that in the gold districts about to be described, that metal is usually associated with silver, a circumstance which occurs in the State of Nevada, and some other places. Only a very indistinct, if any true geological line of demarcation, can be drawn between the species of rocks in which gold and silver, alone or combined, attain a predominant value. It is not necessary, however, at the present moment to dwell upon these circumstances; some of the more remarkable general features will be noticed in a succeeding and concluding paper on the Age of Gold-Bearing Rocks; in the meantime the description of the auriferous fields found in the balance of the American continent will be proceeded with, commencing with

MEXICO.

Until very recently it was usually esteemed an accepted fact that the gold and silver mines found in this celebrated region belonged to the paleozoic series of rocks, or associated granites, porphyries and greenstone. This opinion has been proved to be entirely erroneous by Mr. Remond.* He has stated, amongst other items, the following particulars:

The igneous rocks, which occur more abundantly on the Pacific slope, are granites, either fine or very coarse-grained; porphyries, more or less feldspathic; and greenstones, all of which are cut by numerous dykes of extremely varied character. The granites, however, are very poor in veins of the precious metals, while the porphyries are highly metalliferous. In Sinaloa (Candelero) and Durango (San Dimas) we see that the granites underlie the metalliferous porphyries, and that the greenstones, in Sonora, (near Hermosillo) and in the vicinity of La Hacienda) penetrate through them.

The oldest sedimentary rocks, which I have observed, belong to the Carboniferous series; this is represented in the eastern part of Sonora, by heavy masses of limestone, forming very high and rugged ridges, rising a little west of north. The upturned strata are seen, in many places, to rest on granite. Argentiferous veins occur throughout this formation.

The next group of sedimentary rocks, in order, is the Triassic; this forms isolated mountain groups in Sonora, and offers an interesting field for investigation. Instead of limestones, it is made up of heavy beds of quartzites and conglomerates, with coal-bearing clay shales; all of these are disturbed and elevated, and rest on greenstones, feldspathic porphyries, or granite. Wherever metamorphosed, the Triassic rocks are auriferous and contain veins of silver ores. The metamorphic slates and limestones of the Altar and Magdalena districts, which include the richest gold placers of Sonora, may possibly be of Triassic age; but the fossils collected are too imperfect to admit of this being determined. There are some reasons for believing those rocks to be rather of Jurassic than of Triassic age, as they differ in lithological characters from both the Triassic and Carboniferous of Northern Mexico, resembling, rather, the Jurassic gold-bearing slates of the Sierra Nevada in California; besides they lie outside and to the west of the Sierra Madre. It may also be noticed that the gold which they furnish does not resemble that obtained from the Triassic strata.

The Cretaceous period is also represented at the foot of the Sierra Madre, at Arivechi, in Sonora. The strata belonging to this series are chiefly argillaceous shales, and they rest upon porphyries and Carboniferous limestone. They have been disturbed and elevated since their deposition. The fossils, which they contain in great number and in a fine state of preservation, will be noticed further on.

All the above mentioned formations were already in existence before the first eruption of the volcanic rocks took place. These latter are found scattered along the whole Pacific coast, and extend from the Gulf of California up to the very summit of the Sierra. It is very interesting to see the volcanic formations

spread over so extensive a region, especially as there are no active volcanoes known in Northern Mexico, and not even any indications of ancient craters or vents.

The lithological character of the eruptive materials is extremely varied, and there seem to have been several periods of igneous action preceded by as many disturbances of the strata, all of which took place after the close of the Cretaceous epoch. Three different series of volcanic rocks may be observed in Sinaloa and Sonora, unconformable with each other; and these may again be subdivided into groups, after a thorough examination has been made of the extensive suite of specimens which has been collected. The lower, or oldest series, affords several hundred varieties of porphyries, characterized by crystals of feldspar or angite. There are also very peculiar trachytic rocks, resembling granite in appearance. These volcanic materials occur in beds or in masses, and are frequently cut by dykes; but they are quite destitute of veins containing gold or silver, the only metalliferous ores they contain being those of copper (?) and iron, and these in small quantity. Various volcanic ridges in Sonora belong to this class. The second series consists of extensive beds of micaceous, trachytic tufas, and breccias, all more or less uplifted since their deposition, and covering the different igneous and sedimentary formations, as well as the older volcanic porphyries. These attain a great thickness, between San Dimas and San Ignacio, in Durango and Sinaloa.

Above these formations occur ancient alluvial deposits, with bones of extinct animals (elephants) at two localities; near La Noria, northeast of Mazatlan, and in the Arroya de la Palma, two leagues east of La Casita, in Sonora.

Sheets of basaltic lavas, somewhat similar to those of California, and probably of the same age, forming with tufas the upper volcanic series, overlie the other formations, occupying a nearly horizontal position.

The most recent formation is that of the terrace deposits of sand and gravel, which occur in Sonora.

Having thus given a general sketch of the principal groups of rocks developed in the region in question, I pass to a more detailed description of the different formations.

The preceding lengthy quotation merits the deep consideration of all interested in the mining of gold and silver throughout the American continent, as it is probable that more than nine-tenths of its economically productive auriferous and argentiferous areas are almost identical in character with the description just quoted.

We may conclude this notice of Mexico, by briefly remarking that Mr. Remond describes the carboniferous beds as consisting of thick masses of limestone intercalated with layers of schists—the whole series amounting probably to a thickness of five thousand feet, which at Hermosillo rest on syenitic granite.

In the Triassic group are found beds of coal, some of which has been described as anthracite of superior quality.

MINING INCOMES.—The MINING PRESS says, in its last issue:

"The largest individual income derived from the working result of mining for the year 1865, in California, was that of James B. Pierce, of San Francisco. It came from the Blue Gravel claims near Smartsville, Yuba county, and amounted to \$102,031. Jules Fricot, a Nevada quartz miner, was assessed \$182,511, but we are recently informed that the larger part of his assessment came from the sale of mining ground."

We think the PRESS is wrongly informed as to the larger part of Fricot's income being derived from the sale of his mine. The Eureka mine, of which Fricot was half owner, was sold in October, 1865, for \$400,000, and possession given; but only \$100,000 was paid down, the other installments not being paid until after the beginning of 1866. Reducing the \$50,000 which he received before the 1st of January for the sale of his mine, to greenbacks, he would still have left \$120,000 as the profits of his half of the mine for the year 1865.—*Nevada Gazette*, Nov. 1st.

COAL OIL.—Messrs. Sutton & Alexander have leased the Commercial mine, at Corral Hollow, San Joaquin county, for the purpose of distilling the coal to extract the oil which it contains in unusually large proportions. The necessary retorts and other apparatus are now being made in this city, and the distillery will soon be put in active operation. Experiments made with the Corral Hollow coal show that it will yield from fifty to sixty gallons to the ton.—*Times*, Nov. 5th.

HENRY GEERKE, of Tehama county, has raised thirty thousand dollars' worth of wheat this season.

[Written for the Mining and Scientific Press.]

Sierra County Mines.

BY AN INDEPENDENT CONTRIBUTOR.

[Continued from page 256.]

The evening was pleasantly passed in discussing the merits of some good old Bourbon, divers and sundry pipes of Virginia's best; our host, meantime, entertaining us with the history of his mine, from its discovery to the present time, of which we give a brief account:

THE SIERRA BUTTES MINE

Was discovered in 1851 (a period of excitement). The croppings were bold and very rich, showing free gold. The soil and debris below the vein paid from five to eight dollars to the pan. The news soon reached Downieville (twelve miles distant), which was for a time depopulated. Merchants and miners, lawyers, washerwomen and doctors—horse and foot—all started for the new El Dorado. The whole country was staked off, not even excepting the Buttes Mountain to its crest, and a city (Sierra City) was projected (now consisting of half a dozen houses). The discoverers and first locators of the vein, however, were the only ones that persevered to development. They leased the property to Messrs. Woods & Illingsworth, who, with Mexican labor, opened the mine, and worked the ores by arrastras until 1856, in the meantime acquiring possession, by purchase, of the entire property. By the arrastra process less than thirty dollar ores cannot be profitably worked. The chimney or chutes on which they were working not paying so well, the Mexican employees reported the mine exhausted, and Messrs. W. & I. sold, as they thought, a worthless property for a good price—the equivalent which they received in part being placer ground, which was in reality nearly exhausted, and comparatively valueless. The property sold (the Sierra Buttes mine) has, since that time, paid dividends to the amount of \$870,000, in addition to building costly mills, flumes, improvements, and the dead work of the mine, costing \$430,000. Pretty good for an exhausted mine, which to-day shows nearly a year's ore broken and stored in metal houses, with ores for several years broken up and ready for quarrying in the stopes.

The following morning our host, true to his promise, piloted us through a labyrinth of subterranean workings, showing us huge chambers excavated in the mountain, from which ores have been quarried hundreds of feet in length, and from fifteen to twenty-five feet in height; the mountain supported by an occasional false pillar, formed of surface rock, or by a perfect forest of timber, bare, barkless trees, from two to three feet in diameter, and twenty to thirty feet long. There are but few mines of note in this State that I have not visited, and must acknowledge that I have never seen mining on so magnificent a scale, as at this property.

The ores are not as rich as the small veins of Grass Valley, and without corresponding crushing capacity cannot be expected to yield as well; but the facilities for adit levels, with inexhaustible hacks, avoiding the heavy expense of hoisting and pumping; water in abundance for power; the powerful and extensive body of pay ores, which improve in richness with the depth, are evidences of stability and permanence that the most skeptical cannot fear. I am compelled to agree with the manager that this mine, if not the best, is certainly one of the best in the State.

This property consists of three parallel veins—the Rose, Aerial and Cliff, all powerful veins, varying from eight to twenty-five feet in width, situated on the southerly flank of the Sierra Buttes mountain, distant from crest about 3,000 feet, from South Fork of Yuba River about three quarters of a mile; vertical height above river, 1,519 feet; vertical depth of workings from croppings, 450 feet. The gangue or vein-stone is quartz—variable, laminated, saccharoidal and compact.

Metals.—Auriferous iron pyrites, with free gold, and a little galena and copper.

Laminar—when found in veinstone it is coarse and granulated—yields by simple amalgamation on copper plates, in battery and

sluices, from fifteen to thirty dollars per ton. Concentrated sulphurets, of which there is a large percentage, assay from two hundred to four hundred dollars per ton. Strike of vein west 20° north, magnetic; dip 40° northerly; formation or country rock, highly metamorphosed slate, talcose, serpentine, and silicious.

The machinery consists of two mills, each with twelve stamps, weighing 550 pounds each, with a crushing capacity of twenty-four tons per day. The water-power is supplied by heavy springs making out of the mountain, in connection with an expensive flume costing forty thousand dollars, conveying the water from a lake lying north of Buttes mountain. The cost of quarrying and crushing is \$4.25 per ton.

I have described this property more particularly, as from the length of time which it has been worked, and its extensive explorations, it is the type or representative mine of the group, comprising quite a number of parallel veins lying on both sides of the Buttes mountain, and dipping to a common center. Their characteristics, veinstone and metals are similar, denoting them to have been formed at the same period of igneous disturbance.

THE INDEPENDENCE COMPANY

Is a property of considerable note, being the first westerly extension of the veins previously described. Its characteristics being similar, it will require but a brief description.

The mine was located in 1858. The machinery consists of two mills, with a water-power of thirty-six stamps, and a crushing capacity of thirty-six tons in twenty-four hours; amalgamation the same as at S. B. mine. The three veins unite, forming one of sixty feet in width, with three pay chutes or chimneys. The Easterly vein is 125 feet long; average of ores thirty dollars per ton; the Middle is 200 feet long; average of ores twelve dollars per ton; the Westerly is 300 feet long; average of ore from fifteen to eighteen dollars per ton. The vertical depth of workings is 125 feet. The ores are found to improve in depth.

WOODS & WARREN.

First easterly extension—characteristics same as Sierra Buttes, but vein undeveloped—prospects rich. The vein is traceable in an easterly direction, on its line of strike, for about two miles, and is heavily mineralized. The parallel veins show a good working prospect. A heavy bed of magnetic iron ore lies near the river on the easterly flank of the Buttes mountain.

When the mineral resources of this district are better understood, and when capital and labor are more abundant, it is not unreasonable to infer that the mineral product of this district will be second to none in the State.

This mineral belt of metamorphic rocks, in which the previously described mines occur, stretches away in a northerly direction, defined and traceable for 150 miles; in a southerly direction it is traceable about 350 miles, parallel with the axis of the mountain chain, and conformable to the igneous belt of eruptive rocks, everywhere seen on the summit of the Sierra range.

In a northerly direction, about three miles, we find

THE PRIMROSE MINE,

With a 12-stamp steam mill, now lying idle for want of the one thing needful to render it a productive mine—capital. Its past history and disbursements have demonstrated its intrinsic value, and proven it to be a powerful vein, containing very rich ores. During the few years it was worked the gross product was \$240,000, which was expended in dead work, mills, machinery, and the purchase of other mining properties, leaving an indebtedness of \$72,000 under an exorbitant interest. Had the creditors been able to give an extension, the mine would in a short time have paid the indebtedness; but, unfortunately, the creditors were pressing, and the property was sold under the hammer.

Among the properties of note in this belt we find, three miles northerly, the Gold Valley mine, with a 10-stamp mill, and the Four Hills mine with a 4-stamp mill. In Plumas county, adjoining Sierra, is the Eureka, and at Jamison the Mammoth and Crescent, besides several others at Indian Valley. VIAJADOR.

MUNCHAUSENISM.—The Sonora Democrat of November 3d is said to be responsible for the following: "Some Italians near Deer Flat, in this county, last week struck one of the richest quartz claims that has ever been found in the county. We are informed that at a depth of fifteen feet on the vein they found a streak of pure gold four inches wide, and the quartz being decayed, they take out the precious stuff in huge slabs, which they have to cut in portable sizes with a chisel."

Oh! oh! oh!

*In a paper read at the meeting of the California Academy of Natural Sciences, San Francisco, at their meeting March 5th, 1866, by M. Remond, being an abstract of his observations made in Northern Mexico from 1863 to 1865.

Written for the Mining and Scientific Press.]

The Plattner and Ryerson Processes.

EDITORS PRESS:—In your issue of October 27th, in speaking of the superiority of the so-called superheated steam process over the common mill process, a statement of facts is used as proof, which, though correct in itself, does not give the whole truth of the case.

The reporter says: "The Winton mill, at Meadow Lake, extracted only nine dollars per ton from ore which yielded by the superheated steam process over treble the amount." The full facts, however, are the following: The quartz, containing only about five per cent. of arseniurets of iron, yielded nine dollars per ton in free gold and fifteen per ton in gold extracted from the concentrated arseniurets, making in all twenty-four dollars per ton, though at least one quarter the arseniurets contained in the ore were lost by the imperfect work of hands inexperienced in huddle washing. The yield by old processes followed for years in this State would have been fully as much, if not more, than by this new process. Every now and then we hear of astonishing results by new processes, which, when traced down to the facts, disappear in insignificance.

The fact is, gold quartz milling has been carried on for the last years in greater perfection than any other branch of metallurgical reduction followed in any part of the world, principally on account of its simplicity. A loss of more than ten per cent. of the gold contained in quartz, after a careful separation of the sulphurets or arseniurets, can certainly be considered an exception in any well managed mill.

Fire assays on quartz tailings, as every assayer experienced in this metallurgical branch will admit, will hardly ever be found a guide in working quartz. It requires the utmost care and circumspection in the selection of samples, and in the most favorable cases the endeavor to arrive at reliable and practically corresponding results will prove abortive.

Another writer, speaking of the tailings of the sulphurets found at the Chlorination works at Grass Valley, mentions an assay made by him from one of the piles, giving a result of \$23 per ton. Though this assay indicates a far greater loss than that experienced by men who carry on this delicate process in an understanding manner, it indicates still a flattering result.

The roasted ore is said to yield by fire assay twenty three dollars per ton. This ton of roasted ore is the result of 1.43-1.00 tons of raw concentrated sulphurets, as the sulphurets of iron lose from thirty to thirty-three per cent. in weight by roasting. The loss per ton of sulphurets is, therefore, 23-1.43 = \$16. As the sulphurets of Grass Valley will average about \$160 per ton, we have a loss of only ten per cent. With an additional expense of thirty cents per ton, this loss, or at least the greater portion of it, could be avoided.

A careful and intelligent working by Plattner's process will extract nearly as much as the fire assay, as can be proved by hundreds of controlling assays of various assayers.

In regard to the difficulty of working the Eureka sulphurets at Grass Valley, bought by Swansen agents at present, it only exists in the inexperience of the local sulphuret men in working rebellious sulphurets by chlorination.

The gold contained in the Eureka sulphurets can be saved, however coarse; nor will lime, copper, or a small quantity of lead be a drawback to a successful working of the ore. Unaccustomed to work cupreous sulphurets, the local sulphuret men are unable to treat them.

Smelting the ore at Grass Valley has already proved a failure in 1859, on account of the difficulty of procuring the necessary lead or its ore; and cannot compare in point of cheapness with Plattner's chlorine process, which will be carried on, with slight alterations, in Meadow Lake district, abounding in poorer sulphurets at ten dollars per ton, though the cost of freight on chemicals is quite considerable. Finally, the writer wishes to state that the patent to which reference has been made by one of your correspondents, does not exist on Plattner's chlorine process, but on "a combination of devices and apparatus for working the above process." The patent was issued January 6th, 1863, and the right to construct such apparatus in Nevada county has been bought by the sulphuret men of Nevada City and Grass Valley.

G. F. D.

Meadow Lake, October 27, 1866.

Gov. McCormick's Message to the Legislature of Arizona states the probability that during the coming year Arizona will be placed in telegraphic communication with the rest of the world, by the erection of a branch line from Utah.

Mechanical.

NEW MACHINERY.—Messrs. H. J. Booth & Co., at the Union Foundry, have just forwarded eight 4-foot Wheeler pans for the Rawhide Ranch mine, Tiolumne county, and are now making for the same mine a 12-inch engine, with hoisting gear, etc. They have also nearly completed four 4-foot Wheeler & Randall Excelsior Grinders, for O. L. Chamberlain, for the French Mill, Amador county. There is also in course of construction at this establishment, for Wm. H. Bovey, whose mine is at Angels, Calaveras county, a 10-stamp mill; a hoisting gear for the Alpine company, Greenhorn Mountain, Kern county; a 36 inch engine for the Sacramento City Water Works, with two large pumps of 12-inch bore and 6-foot stroke. The last-named engine will have Scott & Eckart's self-regulating cut-off. Besides the above, the works seem to be well favored with miscellaneous orders.

The latest novelty in the way of destructive weapons, is a French invention by M. Perrot. He has invented three different guns. The first has two barrels, and by the force of compressed air several balls can be projected in one second from each barrel. A cartouch box, containing a thousand balls, by an ingenious contrivance drops one into the bore of the gun after each shot. A second gun has three barrels; from each twenty balls can be projected per second, therefore, from nine hundred to twelve hundred per minute. The machinery of this gun is similar to that of the first, merely that it is mounted on wheels, and therefore is *locomobile*. In the third species, steam, air, and gas are put in requisition to project stone and combustible material of all species, and is intended to be employed in besieging a city or storming a fort.

A SUPERIOR GLUE.—A very superior glue may be made by dissolving three parts of India-rubber in thirty-four parts of naphtha. Heat and agitation will be required to readily effect the solution. When the rubber is completely dissolved add sixty-four parts of finely powdered shellac, which must also be heated in the mixture until all is dissolved. This mixture may be obtained in sheets like glue by pouring it, when hot, upon plates of metal, where it will harden. When required for use it may be simply heated in a pot till soft. Two pieces of wood or leather joined together with this glue can scarcely be sundered without a fracture or tearing of the parts.

THE Legislature of Connecticut passed a law at its last session requiring all railroads through that State to use some kind of an apron between passenger cars. The object is to secure the safety of passengers when going from one car to another while in motion. A contrivance for this purpose has recently been patented by a Hartford man. It consists of an iron net-work, put together by rivets in such a way that it expands and contracts according to the motion of the car. It is highly spoken of by railroad men.

MR. KIRCALDY has recently erected in London a testing machine for steel, which is said to be the most complete thing of the kind. The *Engineer* says: "A preliminary series of 240 experiments will be commenced within the next fortnight. The experiments will be conducted with a view to determine the powers of resistance of various steels, supplied by the twelve subscribing firms, to tensile, compressive, bending, and torsional strains."

LINING FOR STEAM CYLINDERS.—An invention which has for its objects the prevention of the escape of heat from steam cylinders, and the condensation of steam therein, has recently been afforded provisional protection in England. It consists in lining the cylinder with wood or some other material which has a low conducting power.

AN IMMENSE BRIDGE.—The Victoria Bridge over the river Thames, at Battersea, is 912 feet long and 132 feet wide. It is the widest railway bridge in the world. It will have four railway tracks.

SUPERIORITY OF REMINGTON'S FIRE ARMS.—Austria has signified her adoption of an American gun—the new Remington breech-loader—and "all the resources of public and private works are to be employed in its manufacture." The Belgian Minister of War has also applied for permission to manufacture under the Remington patent, while England and France have ordered additional samples with which to complete their trials of the same.

The invention mainly consists in the application of a swinging breech-piece, pierced by a firing line, to a barrel bored "through and through," and acting in combination with a tumbler attached to the hammer, so that the curved edges of the tumbler and the breech will interlock to brace against the recoil. This gun has shown greater rapidity of fire than any other, exceeding even sixteen shots per minute; and it claims superiority in the additional requisites of accuracy, extent of range, portability, durability, simplicity for purpose of cleaning and repair, safety and convenience of handling in action, and cheapness of construction. While this is likely to be the standard pattern for new guns, there is a desire on the part of our Government to avoid for a time the expense of an entire new piece by altering to breech-loaders the Springfield rifles now on hand. The Remington plan for this purpose is also before the public.

THE *Colliery Guardian* of Sept. 22d, thus speaks of a patent recently granted for "improvements in making wrought iron":

The process to which this invention relates, is intended chiefly for the treatment of such ores as the rich primitive oxides and hydrated oxides of iron, but other ores may be subjected to it. Ores to be treated are to be pulverized to about the size of peas, and to have the mechanically mixed earthy matters and other impurities washed out or mechanically separated; the ores are then to be mixed with sufficient charcoal or other carbonaceous matter to deoxygenize them, and the mixture, either with or without the addition of fluxes, is to be charged into iron canisters, by preference of sheet iron perforated with a few holes. The canisters thus charged are to be submitted to a proper heat to deoxygenize the ore in any proper furnace; the heat is then to be raised to a welding heat, and the canisters, either broken or unbroken, together with their contents, are to be partially welded together in the furnace and then withdrawn, and subjected to the action of a hammer, squeezers, puddle-ball, rods, or other proper instrumentality to solidify the mass and complete the welding.

An invention has been provisionally specified by a London artisan, which consists in so connecting the bodies of railway carriages to the under frame-work, that in case of a collision, the two will be separated by the breaking of a bolt. By this means, the shock which passengers receive is broken. The body of the carriage slides forward in grooves on the frame-work, and thus is much less likely to be demolished than if the check was more abrupt.

A NEW YORK ENGINEER has planned and is about building a river steamer, constructed entirely out of Bessemer steel, the length to be 450 feet, the breadth 45 feet, and the displacement 1,760 tons. By constructing the steamer upon a peculiar model which he has planned, the engineer claims that with engines of 10,000-horse power he can secure a speed of at least 30 miles an hour. The boat will accommodate 1,000 passengers, and is to run, if successfully built, between New York and Albany, making the trip in five hours.

A CURIOUS INVENTION BY A WORKINGMAN.—At the Industrial Exhibition in the Agricultural Hall, Islington, London, there is shown an ingenious invention, by which the action of a shower of rain is made to close an open window. The window, when opened, stretches two India-rubber springs. These springs are prevented from drawing the window down by means of a curved rod fixed outside the sash, the end of which works up and down in a tubular bell-mouthed stand on the window-sill. A little piece of loaf sugar is inserted into the mouth of the stand, and the end of the rod is let down gently upon it. The sugar prevents the rod descending into the tube, and of course keeps the window sash up. As soon as it begins to rain, the bell-mouth of the tube collects the drops, the sugar is melted, and no further obstacle being presented to the action of the India-rubber springs, the sash is drawn down.

BARRELS FOR CEMENT CRUSHING.—Experiments are about being made for reducing hard cement in revolving barrels, or grinders. The barrels will be made of sheet iron, with hollow journals for introducing steam for the purpose of accelerating the process.

Scientific Miscellany.

CHARCOAL AS A PRESERVATIVE OF WOOD. The enduring character of wood which has been charred is well known. Charcoal itself is as enduring as granite; but its use in preserving wood is generally misunderstood. The cause of its preservative influence does not lie in itself, but in the fact that the heat required to produce it destroys the parasites which would otherwise destroy the wood. Wood subjected to a high steam heat, though not charred, is as capable of resisting the action of time as though it were charred. Dr. Schmoele has recently taken out a patent founded on this principle, which he sets forth as follows:

The microscope reveals the cause of decay in wood as due to parasites feeding on the albuminous substances therein. The following conditions must all be fulfilled before decay takes place: The presence of parasites or germs, albuminoids, moisture, free oxygen, together with a suitable temperature, and the absence of greater counteracting influences. Now, charring wood dispenses with the two first conditions, for the heat required to char the outside coating is more than sufficient for decomposing the albuminous substances, and destroying all parasite germs. A temperature but little above the boiling point would answer for this equally well. I come then to the conclusion that, for preserving wood, charring is quite superfluous, a much less heat answering equally well. On this idea, original I believe with myself, and which I claim as my invention, I base my plan for the preservation of wood. I propose to store the timber, of whatever description, in large stone or iron boxes or rooms, through which I circulate currents of hot air or superheated steam, till each piece is heated to the required degree.

This process offers the following advantages: greater simplicity, greater cheapness, requiring no expensive chemicals, greater expedition of the work.

As is well known, the albuminoids are highly hygroscopic, and in consequence expand or contract with every change of moisture in the air. Wood treated as above is no longer subject to such changes.

PHOTOGRAPHING UPON SILK.—A process has been devised at Lyons, the great silk manufacturing locality of France, for photographing upon silk, linen, etc., so that persons, instead of marking their initials upon the corner of a handkerchief, can have their photographs taken upon the fabric. In the silk shops various articles are exhibited, photographed with names, portraits and fanciful devices. The pictures are not injured by washing, and the process is said to be easily and rapidly effected.

CARBOLIC ACID is coming into general use as a disinfectant. Its action is prompt and persistent. Chloride of lime deodorizes the air, but destroys the noxious matter by chemically changing it, at the same time becoming itself changed and useless for further good. Carbolic acid does not change; while it acts as promptly as the chloride of lime, it continues indefinitely to act.

SNOW is never familiar in its aspect. It seems to belong to the world of ghosts. It is the opposite of verdure, of plenty, of life, and speaks sublimely of desolation, of cold, of death. This gives it supernatural affinity. Childhood is deeply impressed with a fall of snow. Ostensibly occupied with extraneous, with form and color, the deeper Being of infancy is amenable to the vastness and awfulness of the snow-storm.

The beauties of the snow-drop, microscopically viewed, match the superb grandeur of the snow-fall, and it is instinct with life when examined. A distinguished chemist, in an experiment, examined water in a vessel, and found it to be pure; snow was then dissolved in it, and under the microscope the liquid was found with hundreds of animalcules resembling diminutive shrimps, and quite unlike the eels discovered in acetic acid. Snow-water is considered unwholesome; the affections of the throat in parts of Switzerland are attributed to its use. The snow-drop rivals the star in beauty, and, like the star, is a world full of life.

DISCOLORATIONS OF THE FACE are generally produced by the accumulation of pigment under the cuticle, caused by indigestion. The trouble may be removed by dissolving half a teaspoonful of common salt in a tumbler full of water, and drinking it every morning before breakfast. So says the *Druggists' Circular*.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, November 3.

12 shs Ophir at 91 per foot.
 12 shs Ophir at 90 per foot, s 3.
 11 shs Savage at 1410 per foot.
 1 sh Savage at 1400 per foot, s 30.
 1 sh Savage at 1430 per foot s 3.
 4 shs Chollar-Potosi at 118 per foot, s 3.
 14 shs Chollar-Potosi at 119@120 per foot.
 4 shs Chollar-Potosi at 120 per foot b 10.
 2 shs Chollar-Potosi at 121 per foot.
 10 shs Chollar-Potosi at 125 per foot, b 15.
 4 shs Yellow Jacket at 670@675 per foot.
 1 sh Yellow Jacket at 675 per foot s 10.
 1 sh Yellow Jacket at 675 per ft., s 30.
 1 sh Yellow Jacket 680 per foot c.
 2 shs Yellow Jacket at 685 per foot.
 2 shs Yellow Jacket at 690 per foot b 3.
 8 shs Yellow Jacket at 695@699 per ft s 3.
 15 shs Yellow Jacket at 699 per foot s 30.
 10 shs Yellow Jacket at 700@697½ per foot.
 9 shs Yellow Jacket at 700 per foot, b 3.
 2 sh Yellow Jacket at 500 per foot b 5.
 2 shs Yellow Jacket at 700 per foot s 3.
 6 shs Yellow Jacket at 700 per foot b 30.
 1 sh Yellow Jacket at 685 per foot s 30.
 1 sh Yellow Jacket at 692½ per foot s 3.
 1 sh Yellow Jacket at 690 per foot c.
 4 shs Yellow Jacket at 693 per foot.
 2 shs Belcher at 60 per foot.
 22 shs Imperial at 104@105 per share.
 21 shs Imperial at 106@105 per share, s 3.
 10 shs Imperial at 110 per share, b 30.
 5 shs Imperial at 107 per share, b 5.
 1 sh Imperial at 108 per share.
 5 shs Imperial at 106 per share, b 10.
 10 shs Imperial at 109½ per share, b 30.
 24 shs Imperial at 107 per share, s 3.
 15 shs Overman at 16 per share, c.
 30 shs Overman at 16½ per share.
 10 shs Overman at 16½ per share, s 3.
 6 shs Overman at 17½ per share, h 10.
 60 shs Overman at 17½@17 per share.
 10 shs Overman at 18 per share, b 30.
 60 shs Overman at 17½@18 per share.
 7 shs Bullion at 12½ per share.
 Amount of sales.....\$ 85,153 50

Monday, November 5.

12 shs Chollar-Potosi at 120@119 pr foot.
 2 shs Chollar-Potosi at 117 per foot.
 6 shs Chollar-Potosi at 120@125 per foot s 3.
 10 shs Chollar-Potosi at 123@130 pr ft, b 30.
 3 shs Chollar-Potosi at 122½ per foot.
 1 sh Chollar-Potosi at 123½ per foot.
 12 shs Crown Point at 1075@1085 per foot.
 8 shs Crown Point at 1070 per foot s 3.
 16 shs Crown Point at 1055@1060 per foot.
 8 shs Crown Point at 1060 per foot.
 8 shs Crown Point at 1070 per foot, b 30.
 24 shs Crown Point at 1075 per foot b 30.
 1 sh Belcher at 60 per foot.
 12 shs Ophir at 91 per foot c.
 1 sh Yellow Jacket at 692 per foot, s 30.
 1 sh Savage at 1450 per foot.
 2 shs Savage at 1450 per foot, s 30.
 6 shs De Soto at 3½ per share.
 20 shs Imperial at 106@104½ per share.
 5 shs Imperial at 106 per share s 3.
 6 shs Imperial at 103@105 per share.
 15 shs Imperial at 103 per share, s 10.
 10 shs Imperial at 107½@106 per share.
 6 shs Imperial at 106 per share, s 30.
 5 shs Imperial at 107 per share, b 30.
 3 shs Overman at 18 per share c.
 75 shs Overman at 19@18½ per share s 3.
 5 shs Overman at 18½ per share.
 5 shs Overman at 20 per share.
 10 shs Overman at 21@21½ per share b 30.
 60 shs Overman at 22 per share.
 5 shs Overman at 23 per share, b 30.
 70 shs Overman at 21½@22 per share.
 25 shs Overman at 21 per share, s 30.
 25 shs Overman at 24½ per share, s 3.
 5 shs Bullion at 12½ per share.
 60 shs S F Gas Co at 66 per cent

AFTERNOON SESSION.

2 shs Yellow Jacket at 715@700 per ft.
 2 shs Yellow Jacket at 710 per foot.
 1 sh Yellow Jacket at 705 per ft, s 3.
 2 shs Yellow Jacket at 707½@725 per foot.
 2 shs Yellow Jacket at 770@725 per ft b 30.
 8 shs Crown Point at 1050 per foot.
 12 shs Crown Point at 1070@1060 per foot.
 4 shs Crown Point at 1050 per foot, s 30.
 16 shs Crown Point at 1050@1045 per foot.
 12 shs Crown Point at 1050@1047½ pr ft, b 30.
 8 shs Crown Point at 1045@1050 per ft, b 30.
 4 shs Crown Point at 1035 per foot s 30.
 28 shs Crown Point at 1030@1020 per foot.
 2 shs Belcher at 60 per foot.
 2 shs Chollar-Potosi at 121@123 pr foot.
 6 shs Chollar-Potosi at 122½ per foot.
 7 shs Chollar-Potosi at 127½ per foot b 30.
 12 shs Ophir at 92½ per foot.
 36 shs Ophir at 92 per foot.
 8 shs Ophir at 91 per foot s 30.
 120 shs Overman at 22½ per share
 10 shs Overman at 23 per share, b 10.
 20 shs Overman at 25 per share, b 30.
 20 shs Overman at 23 per share.
 10 shs Overman at 23 per share, s 30 d.
 5 shs Overman at 24½ per share, b 30.
 10 shs Overman at 23 per share, a 10.
 5 shs Imperial at 105 per share.
 \$15,000 Legal Tender Notes at 70½c b 5.
 \$1,500 Legal Tender Notes at 70½c.
 Amount of sales.....\$ 87,211 50

Tuesday, November 6.

1 sh Savage at 1460 per foot.
 1 sh Savage at 1460 per foot, b 3.
 1 sh Savage at 1450 per foot c.
 2 shs Savage at 1450 per foot.
 6 shs Yellow Jacket at 715 per foot.
 4 shs Yellow Jacket at 705@700 per foot.
 2 shs Yellow Jacket at 700 per foot.
 3 shs Yellow Jacket at 700@695, s 30.
 2 shs Yellow Jacket at 700 per foot c.
 1 sh Yellow Jacket at 702½ per foot b 30.
 4 shs Crown Point at 1090 per foot.
 6 shs Chollar-Potosi at 122½ per foot, b 30.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, November 10th, 1866.

Since our last reference the demand for money for regular business purposes has been less pressing, and a slight accumulation of available capital may be noted. The rates in Bank upon first-class paper and other good collaterals are ruling at 1¼@1½ per cent. per month. Upon the street higher figures prevail. A revival of speculation in mining shares, upon the arena of the Stock Exchange, seems to have been fairly inaugurated, owing to the unusually favorable advices from leading claims. There can be but little doubt that the intrinsic value of certain mines has been materially enhanced within a short time, giving strong evidence of future permanence.

Gold Bars sell at \$40, with some inquiry for steamer account. Silver Bars rate at 1¼@1½ discount on average lots. Currency Bills on the Atlantic are given at 40 per cent. premium on gold. Sight Drafts, payable in coin, are made at 2¼ per cent. premium, and Telegraphic Transfers at 2½ per cent. premium. Sterling Exchange sells at 48¼@49d.; Commercial do., 49@49½d.

During the past week City Stocks have revived a little. San Francisco Gas Co. sold at 66@65 per cent., Spring Valley Water Co. at 61 per cent., and California Steam Navigation Co. at 68 per cent.

Latest Gold quotations from New York, 146; Sterling at 109. Legal Tenders, 70½c bid, 70½c asked.

The transactions at the Stock Board during the past week have been considerably in excess of the previous week. Several leading stocks have materially improved, and as a general thing marked firmness prevails in the Share Market. A number of claims are now yielding largely, and their present condition is such as to insure the belief that they are not likely to become less productive for a long time to come. Most of the Washoe companies on the Comstock lode are financially in a good condition, and no diminution is apparent in bullion returns. During the month of October the receipts of the following companies—Savage, Yellow Jacket, Hale & Norcross, Gould & Curry, Crown Point, Imperial, Chollar-Potosi, Empire Mill & Mining, and Ophir—aggregated nearly \$1,000,000. The September returns reported about the same amount, while in August the receipts exceeded the above figures. The usual monthly dividends have been declared, as will be noticed in detail below.

Savage sold in the beginning of the week at \$1,410, advanced steadily to \$1,475, then sold at \$1,460, closing at \$1,430, ex-dividend. The yield of ore from this mine during the week ending November 3d was principally from the sixth station, which produced 947 tons, and the works in the Curtis shaft yielded about 650 tons. The ore found at the southeast face in the sixth level has improved, it is said, both in quantity and quality. Winze No. 2 from the same level is now over fifty feet deep, and continues in the same ore as previously reported. During the month of October \$210,000 in bullion was received as the production of the mine for that period. In September the yield was about \$145,000—an increase of \$65,000. The ore gave an average production of \$45 per ton—in September, \$41. Over 2,700 tons of ore remain on hand at the mine, valued at \$124,000. A dividend of \$75 per foot was declared on the 8th and paid yesterday. This company carries forward a cash surplus of \$23,000 after paying out \$60,000 in dividends.

9 shs Chollar-Potosi at 113 per foot.
 2 shs Chollar-Potosi at 118 per foot, s 10.
 1 shs Chollar-Potosi at 116 per foot s 3.
 5 shs Belcher at 60 per foot.
 2 shs Belcher at 61 per foot.
 5 shs Daney at 3½ per share.
 5 shs De Soto at 3½ per share, b 10.
 35 shs Confidence at 66 per share.
 5 shs Overman at 22 per foot, b 13.
 15 shs Overman at 20@19 per share, a 30.
 5 shs Overman at 21 per share b 30.
 10 shs Overman at 20½ per share.
 100 shs Overman at 20 per share.
 10 shs Overman at 20 per share, s 3.
 20 shs Overman at 18 per share s 30.
 35 shs Overman at 19½ per share, s 3.
 10 shs Overman at 19 per share, s 3.
 10 shs Overman at 18½ per foot.
 6 shs Overman at 19½ per foot, b 10.
 10 shs Overman at 20 per share b 30.
 2 shs Imperial at 104 per share.
 15 shs Imperial at 105 per share.
 5 shs Imperial at 105 per share, s 3.
 10 shs Imperial at 106 per share.
 1 sh Empire M & M Co. at 120 per sh b 3.
 100 shs Spring Valley Water at 61 per ct.

AFTERNOON SESSION.

12 shs Ophir at 90 per foot.
 8 shs Chollar-Potosi at 115 per foot.
 1 sh Chollar-Potosi at 113 per foot, s 10.
 3 shs Chollar-Potosi at 112 per foot.
 12 shs Chollar-Potosi at 110 per foot, s 30.
 2 shs Savage at 1460 per foot, s 30.
 1 sh Savage at 1470 per foot.
 1 sh Savage at 1472½ per foot.
 1 sh Savage at 1475 per foot.
 1 sh Belcher at 61 per share
 1 sh Yellow Jacket at 680 per foot s 3.
 1 sh Yellow Jacket at 682½ per foot b 3.
 1 sh Yellow Jacket at 680 per foot.
 4 shs Crown Point at 1060 per ft, b 30.
 50 shs Overman at 18½@18 per share.
 20 shs Overman at 18@19 per foot b 30.
 15 shs Overman at 17 per share, s 10.
 25 shs Overman at 17½ per share.
 7 shs Overman at 17½ per share, s 3.
 5 shs Overman at 17 per share, b 20.
 10 shs Overman at 16½@16½ per share.
 20 shs Overman at 16 per share s 3.
 5 shs Overman at 16 per share, s 10.
 40 shs Overman at 16 per share.

5 shs Overman at 16 per share s 30.
 4 shs Empire M & M Co. at 120 per share.
 1 sh Empire M & M Co. at 117 per sh s 3.
 6 shs Imperial at 106 per share.
 8 shs San Francisco Gas Co. at 66 per ct.

Amount of sales.....\$60,546 00

Wednesday, November 7.

10 shs Chollar-Potosi at 110@106 per foot.
 2 shs Chollar-Potosi at 107½ per foot.
 2 shs Chollar-Potosi at 108@107½ pr ft c.
 1 sh Savage at 1490 per foot, b 30.
 2 shs Savage at 1475@1480 per foot, s 30 d.
 1 sh Savage at 1475 per foot, b 10.
 1 sh Savage at 1460 per foot.
 1 sh Savage at 1467½ per foot, c.
 1 sh Savage at 1470 per foot.
 1 sh Savage at 1470 per foot, s 30.
 2 shs Savage at 1500 per foot, b 30.
 3 shs Belcher at 60 per foot.
 2 shs Belcher at 62 per foot, b 30.
 2 shs Yellow Jacket at 695@700 per ft, b 30.
 1 sh Yellow Jacket at 686 per foot b 3.
 2 shs Yellow Jacket at 685 per foot.
 1 sh Yellow Jacket at 680 per foot.
 1 sh Yellow Jacket at 680 per ft s 3.
 2 shs Crown Point at 950@910 per ft.
 3 shs Crown Point at 910@900 per ft, b 30.
 12 shs Ophir at 85 per foot.
 37 shs Imperial at 105@104 per share.
 10 shs Imperial at 105 per share, s 3.
 5 shs Imperial at 106 per share, b 30.
 5 shs Bullion at 12 per share.
 1 sh Empire M & M Co. at 115 per share.
 15 shs Overman at 18 per share, s 3.
 20 shs Overman at 13½ per share b 20.
 20 shs Overman at 13½ per share.
 50 shs Overman at 14 per share.
 2 shs Yellow Jacket at 680 per foot, s 30.
 2 shs Yellow Jacket at 687½ per foot, b 10.
 1 sh Yellow Jacket at 697½ per foot b 30.
 1 sh Yellow Jacket at 686 per foot s 3.
 2 shs Savage at 1450@1460 per foot.
 4 shs Savage at 1460@1465 per foot, s 30.
 1 sh Savage at 1460 per foot, s 3.
 60 shs Ophir at 80 per foot.

AFTERNOON SESSION.

2 shs Belcher at 60 per foot.
 1 sh Belcher at 63 per foot s 3.
 1 sh Belcher at 63 per foot s 30.
 2 shs Belcher at 65 per foot, b 30.
 2 shs Belcher at 67½ per share b 30.
 5 shs Yellow Jacket at 700@695 per ft b 30.
 2 shs Yellow Jacket at 690 per foot s 30.
 1 sh Yellow Jacket at 687½ per foot, b 10.
 1 sh Yellow Jacket at 697½ per foot b 30.
 1 sh Yellow Jacket at 686 per foot s 3.
 2 shs Savage at 1450@1460 per foot.
 4 shs Savage at 1460@1465 per foot, s 30.
 1 sh Savage at 1460 per foot, s 3.
 60 shs Ophir at 80 per foot.

Hale & Norcross has not been dealt in during the past week. On the 9th, \$1,750 per foot was bid. The bullion receipts of this company during the month of October amounted to \$149,931 63. This is 65 per cent. of the assay value exacted from the millers; but the actual result after working is given at \$152,363.74. This amount is produced from 2,588 tons of ore, giving an average of \$58 per ton. The September returns of bullion, at 65 per cent., aggregated \$150,719.49—actual yield, \$2,947.17 more; August, \$118,000—actual yield, \$1,447.38 more; and in July, \$139,883—actual yield, \$14,800 less. A dividend of \$100 per foot, it is said, will be declared to-day.

Yellow Jacket opened at \$670, advanced to \$700@725, receded to \$690@685, and closed yesterday at \$690. From the report for the month of October we learn that this company has worked 6,684½ tons of second class ore, yielding in bullion \$180,288.67, or an average of \$26.97 per ton. The total receipts from all sources for the month are given at \$188,216.85, and the legitimate expenses of the mine at \$168,171.64. The October balance at the credit of the company is stated to be \$174,367.35, while that of September was \$221,643.62. On the 8th, a dividend of \$50 per share was declared, payable on the 15th instant.

Gould & Curry is quoted at \$450 bid and \$525 asked. During the month of October this company realized \$114,321.67 in bullion; in September, \$117,821.35. The production of the mine for October is stated to be about 5,900 tons of ore; of this amount 3,400 tons were delivered at the company's mill, and 2,200 to custom mills.

Crown Point sold at \$1,085 early in the week, receded to \$900, and at the close \$920 is asked. During the month of October, 3,205 tons of ore were reduced, yielding about \$110,000 in bullion. This gives an average of \$34 per ton. The yield in September was reported at \$120,000, and the average over \$38 per ton. In the drift on the lower level the east and west strata have been united. The vein at this point is said to be somewhat irregular in its formation.

Chollar-Potosi opened at \$119, advanced to \$126.50, declined to \$107.50, suddenly rallied to \$130, and closed yesterday at \$190. The bullion yield of this company for October is about \$60,000; in September it was \$53,000. The new Santa Fe station, it is said, looks well, and so does the Bajazette—the latter carrying a large amount of low-grade ore. The rise in this stock at the close is attributed to rich developments in the new shaft.

The Bacon Mill & Mining Co., at Gold Hill, have resumed operations. An assessment of \$10 per share was levied on the 10th inst. Imperial has met with no material change from our last quotations, selling at \$104@108, then at \$106, closing yesterday at \$106½. This company, it is said, is now extracting more than the usual quantity of ore for winter supply.

Empire Mill and Mining Company opened at \$120, receded to \$112, and yesterday \$106 was bid. The bullion receipts for the month of October, we are informed, aggregated about the same as in September—\$42,000. On the 9th, a dividend of \$6 per share was declared. Ophir sold at \$91@92.50, receded to \$79, and closed at \$82.50.... Belcher advanced from \$60 to \$67.50, buyer 30, then sold at \$62, closing at \$62 asked.... Confidence sold at \$58.

Bullion brought \$12.50@19, buyer 3—assessment of \$10 delinquent.... Sierra Nevada sold at \$3.25—assessment of \$2.50 delinquent.... De Soto, \$3.75@3.25.... Daney, \$2.25.... Overman was largely dealt in during the past week within a range of \$23@14, closing yesterday at \$18½. Assessment of \$5 due November 17th.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$478,301.50.

12 shs Ophir at 83 per foot.
 15 shs Ophir at 82½ per foot.
 8 shs Crown Point at 900 per foot.
 8 shs Imperial at 104 per share.
 5 shs Imperial at 105 per share, b 30.
 2 shs Imperial at 106½ per share, s 10.
 5 shs Imperial at 105½ per share, s 30.
 5 shs Overman at 16½ per share, s 3.
 5 shs Overman at 16 per share, s 30.
 5 shs Overman at 14½ per share.
 15 shs Overman at 15 per share.
 10 shs Overman at 14½ per share, b 10.
 3 shs Overman at 14½ per share, s 10.
 20 shs Sierra Nevada at 1½ per sh as unp.
 70 shs San Francisco Gas Co. at 65 p. c.

Amount of sales.....\$ 63,684 00

Thursday, November 8.

43 shs Ophir at 80@79 per foot.
 12 shs Ophir at 80 per foot, b 10.
 3 shs Savage at 1457½@1455 per foot.
 2 shs Savage at 1460@1455 per foot, s 3.
 3 shs Savage at 1456@1460 per foot, s 30.
 2 shs Chollar-Potosi at 112½ per foot.
 4 shs Chollar-Potosi at 113@114 per ft s 3.
 2 shs Yellow Jacket at 670 per foot, s 30.
 1 sh Yellow Jacket at 672½ per foot.
 1 sh Yellow Jacket at 682½ per foot c.
 1 sh Yellow Jacket at 683 per foot s 30.
 1 sh Yellow Jacket at 687½ per foot s 30.
 4 shs Crown Point at 875 per foot.
 4 shs Crown Point at 880 per foot, s 30.
 64 shs Overman at 14½ per share
 25 shs Overman at 15½ per share, s 3.
 50 shs Overman at 15½ per share.
 10 shs Overman at 15½ per share, b 10.
 15 shs Overman at 15 per share, s 3.
 5 shs Overman at 15 per foot, s 6.
 10 shs Overman at 14½ per share b 10.
 10 shs Overman at 14½ per share b 3.
 5 shs Overman at 14½ per share, b 30.
 30 shs Overman at 15 per foot, s 30.
 10 shs Overman at 14½ per share, s 30.
 45 shs Overman at 14½ per share.
 20 shs Imperial at 105 per share, s 60.
 20 shs Imperial at 105 per share, b 30.
 5 shs Imperial at 109 per share, b 30.
 4 shs Empire M & M Co. at 112 per sh.
 100 shs Spring Valley Water Co. at 61 b 3.
 \$15,000 Legal Tender Notes at 70½c b 30.

AFTERNOON SESSION.

5 shs Belcher at 64 per foot, b 30.
 2 shs Belcher at 62 per foot.
 5 shs Belcher at 62½ per foot s 3.
 5 shs Yellow Jacket at 680@670 per foot.
 24 shs Crown Point at 875@858 per foot.
 4 shs Crown Point at 885 per foot, s 3.
 20 shs Crown Point at 890@885 per foot s 30.
 10 shs Crown Point at 900 per foot.
 3 shs Yellow Jacket at 690 per foot, b 30.
 4 shs Yellow Jacket at 690 per foot b 3.
 3 shs Yellow Jacket at 700 per foot, b 30.
 4 shs Daney at 2½ per share.
 5 shs Chollar-Potosi at 117½@115 per foot.
 25 shs Chollar-Potosi at 120@125 per foot.
 5 shs Chollar-Potosi at 125 per foot s 30.

5 shs Chollar-Potosi at 127½ per foot.
 15 shs Chollar-Potosi at 120 per ft, s 3.
 17 shs Chollar-Potosi at 130 per ft b 30.
 1 sh Savage at 1470 per foot.
 3 shs Savage at 1500 per foot, b 30.
 15 shs Bullion at 12 per share.
 31 shs Bullion at 12½ per share.
 7 shs Imperial at 106 per share.
 5 shs Overman at 15½ per sh, b 6.
 30 shs Overman at 16@14½ per share, b 3.
 4 shs Overman at 16 per share s 3.
 25 shs Overman at 16 per share.
 20 shs Overman at 15@16 per foot, s 30.
 Amount of sales.....\$ 92,182 00

Friday, November 9.

27 shs Chollar-Potosi at 159@160 per ft, s 3.
 90 shs Chollar-Potosi at 170@160 pr ft, s 3.
 2 shs Chollar-Potosi at 170 per foot s 10.
 41 shs Chollar-Potosi at 110@155 per ft s 30.
 3 shs Chollar-Potosi at 122½@125 per foot.
 6 shs Chollar-Potosi at 157@147½ pr ft, s 30.
 2 shs Chollar-Potosi at 151 per foot.
 12 shs Crown Point at 920 per foot s 30.
 4 shs Crown Point at 920 per foot.
 28 shs Crown Point at 922½@920 per foot.
 4 shs Crown Point at 922½ per foot s 3.
 4 shs Savage at 1420@1430 per foot s 3.
 1 sh Savage at 1430 per foot c.
 2 shs Yellow Jacket at 695@690 per foot b 5.
 5 shs Yellow Jacket at 690@695 per ft.
 1 sh Yellow Jacket at 680 per foot s 3.
 1 sh Yellow Jacket at 685 per foot b 30.
 13 shs Imperial at 106 per share, s 3.
 7 shs Imperial at 107@106½ per share.
 32 shs Sierra Nevada at 3½ per share.
 60 shs Bullion at 12½ per share.
 10 shs Bullion at 12½@12½ per share, s 3.
 5 shs Overman at 16½ per share c.
 5 shs Overman at 17 per share b 3.
 30 shs Overman at 17 per share.
 1 sh Empire M & M Co. at 106 per sh.
 \$2,000 Legal Tender Notes at 70½c.

AFTERNOON SESSION.

8 shs Crown Point at 90 per share s 30
 2 shs Crown Point at 910@900 per foot.
 12 shs Crown Point at 910@900 per ft s 3
 12 shs Crown Point at 910@900 per ft s 3
 60 shs Ophir at 92½ per foot.
 1 sh Yellow Jacket at 690 per foot, h 10.
 1 sh Yellow Jacket at 685 per foot, s 30.
 1 sh Yellow Jacket at 700 per foot, b 30.
 2 shs Yellow Jacket at 695 per ft b 5.
 9 shs Yellow Jacket at 690 per foot.
 10 shs Chollar-Potosi at 165@160 per ft, b 30.
 5 shs Chollar-Potosi at 160@175 per foot.
 5 shs Chollar-Potosi at 170 pr ft, s 15.
 9 shs Chollar-Potosi at 150 per foot, b 21.
 9 shs Chollar-Potosi at 102½@100 per foot.
 20 shs Bullion at 12½ per share.
 10 shs Bullion at 12½ per share, s 3.
 10 shs Bullion at 12½ per share, s 3.
 75 shs Overman at 17 per share, b 3.
 60 shs Overman at 17½@18½ per sh.
 10 shs Overman at 15 per share, s 3.
 1 shs Overman at 15 per share, b 3.
 5 shs Overman at 15 per share, b 3.
 5 shs Overman at 13½ per share b 30.
 Amount of sales.....\$ 89,620 50

THE PARIS EXHIBITION.

MEETING OF THE CALIFORNIA EXECUTIVE COMMITTEE.

The Paris World's Fair Executive Committee met on Saturday afternoon last. Dr. Pigne Dupuytren stated that Mr. W. B. Ewer, the President of the Committee, was absent from the city, and had resigned his position as Commissioner for California to the Paris Exhibition, and that Professor W. P. Blake had been appointed in his place by Governor Low. Professor Blake, by virtue of his appointment, was thereupon elected President of the Committee, and took the chair.

LIMIT OF TIME.

It was stated by Mr. Weill that all articles intended for exhibition at the Fair, if sent to New York, must be forwarded so as to reach that city by the first day of December next. This would preclude any further contributions from this State through that channel. Application has been made to the agent of the French line from Aspinwall to St. Nazaire, France, to ascertain if he would forward, free of expense, such articles for the Exhibition as the P. M. S. Co. should deliver to them on the same terms. No answer had been received; but the opinion was expressed that the Company would cheerfully accede to the proposition, of which public notice will be given. Goods may thus be sent from this city as late as January 5th.

WHERE TO SEND ARTICLES.

Articles intended for the Exhibition should be sent to the care of Jacob Deeth, No. 205 Sacramento street, in this city, except those, minerals donated to the French school of mines, which should be forwarded to Dr. Pigne Dupuytren, 1,022 Stockton street. Parties having goods which they may desire to exhibit, should notify Mr. A. S. Evans, the Secretary of the Committee, as early as possible, stating the amount of space required, character of goods, etc.

Mr. I. N. Hoag, Secretary of the State Agricultural Society, was added to the Committee, and a sub-committee, consisting of Prof. Blake, Alex. Weill, Dr. Dupuytren and C. W. Brooks, was appointed to publish an address to the people of California, in relation to the Exhibition. That address has since been issued, from which we extract the following:

To the People of California:—The structure for the Industrial Exhibition to be opened at Paris on the first of April next, will be elliptical in form and cover thirty-six acres of the Champs de Mars. This space will be divided into ten annular parts running concentrically with the outside lines. These are again divided radially by passages extending from the center to the outside. All the pursuits and products of man are grouped in ten leading divisions, as follows:

1. Works of Art.
2. Materials and applications of labor to Art.
3. Furniture and other household articles.
4. Clothing, including cloths and wearing apparel.
5. Mining, and the rough and wrought products of mining.
6. Processes of Mechanic Arts.
7. Food, fresh and preserved, in its various states.
8. Lending Agricultural products and specimens.
9. Natural Horticultural products and specimens.
10. Objects especially exhibited for improving the physical and moral condition of the population of the earth.

The objects falling into each of these ten comprehensive divisions will occupy one of the ten annular divisions of the building, and a section of the whole, extending from the center to the outside, will be assigned to each nation, so that a connected view of the industry of the world may easily be obtained by visitors.

Forty-two thousand square feet of this space has been assigned to the United States, or over six times the space heretofore allowed us in other exhibitions. Eight hundred feet of this space is allotted to California.

The opportunity is thus offered to us to exhibit to the world in a striking and effective manner the character and abundance of our material resources, and the condition of our arts and manufactures. The people of the State should gladly avail themselves of this opportunity, not only with a view of enhancing their own and the State's prosperity, but to discharge a duty which we clearly owe to the great family of nations, and the advancement

of science, art and civilization. We should exhibit not only for our own direct profit, but we should for the benefit of the millions less favored than ourselves, who will crowd the avenues of the exhibition, anxious perhaps by seeing to learn something of this far-off El Dorado. It has been well said, "The products of industry constitute the language of labor." The artisans and laborers of Europe if unable to read, may, by seeing, learn what we have, and what inducements there are for them to come to us. We can show to the middle and industrial classes of Europe what materials we have in our hills and valleys, ready to be extracted, forged and woven into the various shapes useful and profitable to man. We can show to foreign capital evidences of the treasures that lie dormant in our mountains for want of the means to extract them, or of cheap transportation. We can show them, in short, that we have the material basis of a future greatness and prosperity that will far exceed the wonderful realization of our short history.

Let us then unite in an effort to make the representation of this State worthy of the Exhibition and of ourselves. Let us send characteristic and full samples of all our raw materials; specimens of our ores of gold, silver, copper, lead, tin, iron and other useful metals; samples of our combustibles, our coals, bitumens and petroleum; samples of our borax, horacic acid, our sulphur and our clays.

Let us have our cereals represented not only by the clean grains, but in the ear and stalk. Let us have samples of the wines and brandies from all the vineyards of note from one end of the State to the other. We want specimens of our native woods, of our wool, cotton, silk, flax and hemp, and the manufactures from them. All our manufactures, especially those based upon our raw materials, should be fully represented. Let us have, if possible, models of our mining machinery, of our pumps, improved stamp batteries, appliances for saving gold, and our gridding and amalgamating pans. It is desirable, also, that some of our unrivaled specimens of the photographic art, especially in the form of views of our grand mountain scenery, should accompany the representation.

Much has already been accomplished by the State Agricultural Society, through their Secretary, I. N. Hoag, in securing and sending products of agriculture and samples of our wines. The Mission Woollen Mills will send a full suit of blankets, cloths, cassimeres and flannels. A large plank from our forest is promised, and we may obtain a section of the stump of the Big Tree. Through the exertions of Dr. Pigne Dupuytren, a large number of specimens have been brought together and classified, which will be sent forward.

Much of the precious space at our disposal is yet unfilled, but although it is now too late to send contributions to the agency in New York, articles that may be sent to the care of the Committee here will be received and forwarded direct, if sent to us not later than the fifth of January next.

MINING & SCIENTIFIC PRESS
TERMS FOR
Advertising and Subscription

Miscellaneous Advertisements.	
One week, per square.....	\$1 50
One month, per square.....	3 00
One quarter (3 months), per square.....	7 50
Advertisements of great length, or of special character, inserted by contract on the most favorable terms.	

The space of ten lines of solid type constitutes a square.

Mining Advertisements.	
Notices of Meetings, per square, three weeks.....	\$3 50
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Assessment Notices, of ordinary length, four weeks.....	7 00
Assessment Notices, of more than usual length, four weeks.....	4 00
Delinquent Sales, per square, two weeks.....	2 50
Delinquent Sales, per square, three weeks.....	3 50
Postponement, per square, one week.....	1 50
Suits of Advertisements, per month.....	1 00
or assessments, per hundred.....	1 00
Advertising law blanks, circulars, and advice.....	Free

Terms of Subscription.	
One copy, one year, by mail, in advance.....	\$5 00
One copy, six months, by mail, in advance.....	3 00
One copy, one year, by express.....	6 50
One copy, six months, by express.....	3 50
Five copies, one year, by mail.....	20 00
By city carriers, per month.....	60
Single copies.....	15
Monthly Series (or parts) one year, by mail.....	5 50
Monthly Series, per monthly copy.....	65

THE CIRCULATION OF THE PRESS, already extensive, is rapidly increasing, and substantial tradesmen who can profit by widely disseminating information of their business amongst the most intelligent, influential and industrial classes of the Pacific States and Territories will find no more effective or economical medium for advertising.

DEWEY & CO., Proprietors.
Patent Agency and Job Printing Office, 565 Clay street, San Francisco, July 1, 1895.

PHILADELPHIA AGENCY,
Parties wishing to subscribe or advertise in the Mining and Scientific Press can be accommodated by calling upon our Agent, Mr. TURNER HAMILTON, at the Assembly Building, 105 South Tenth street, Philadelphia, Pa., where sample copies of our publications can always be found.

OUR NEW YORK AGENCY.

Mr. Geo. M. NEWTON is our authorized agent in New York City, and will receive advertisements and subscriptions for the Mining and Scientific Press at regular rates. Sample copies of our weekly and monthly issues can be procured by calling upon him, at the office of the "Stockholder," No. 72 William street.

MINING SHAREHOLDERS' DIRECTORY

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Arbitros M. Co. \$1.50.....	Dec 4-Dec 23		
Adele G. M. Co. \$1.....	Nov 24-Dec 15		
Alexville Q. M. Co. \$50.....	Nov 24-Dec 15		
Arizona M. Co. \$5.....	Nov 12-Dec 15		
Belcher Co. \$33.....	Nov 17-Dec 18		
Belcher M. Co. \$11.....	Nov 17-Dec 18		
Bacon Mill & M. Co. \$10.....	Dec 11-Dec 23		
Chilpanema M. Co. \$5.....	Dec 1-Dec 17		
Cosita S. M. Co. Mex. \$100.....	Oct 31-Nov 19		
Crown Point dividend, \$30 ft.....	Payable June 15		
Confidence S. M. Co. Storey Co., Nev. div. 10 p. c. Pay July 9			
Dancy G. S. M. Co. \$75.....	Nov 2-Dec 3		
Ethan Allen O. S. M. Co. \$50.....	Nov 6-Nov 27		
Eureka, San Juan, dividend \$1.50 per sh. Pay July 19-Sept 3			
Empire M. & M. Co. dividend.....	Payable Nov 9		
Enterprise G. & M. Co. \$5.....	Nov 17-Dec 15		
Ore, Washington G. & S. M. Co. Alp. Co. \$2.50.....	Dec 8-Dec 24		
Great Central M. Co. \$1.....	Nov 15-Dec 3		
Gould & Curry dividend \$30 ft.....	Payable June 8		
Great Northern M. Co. \$1.....	Nov 15-Dec 3		
Humboldt G. & S. M. Co. Nev. \$2.....	Nov 17-Dec 27		
Hill & Norcross dividend.....	Payable Oct. 15		
I. L. O. & S. M. Co. \$1.50.....	Oct 30-Nov 26		
Imperial G. & S. M. Co. dividend \$6 sh.....	Payable Sept 15		
Independent G. M. Co. dividend.....	Payable Sept 1		
Jefferson G. & S. M. Co. Yuba Co. Div. \$10 sh.....	Payable Aug 23		
Keystone M. Co. Calaveras Co. \$5.....	Oct 22-Nov 19		
Kearney M. Co. \$1.....	Annual Meeting Nov 13		
Kohler Bros. & M. Co. \$1.....	Dec 3-Dec 25		
Lady Bell C. M. Co. \$10.....	Nov 19-Dec 6		
La Blanca G. & S. M. Co. \$1.....	Nov 8-Dec 5		
London Q. M. Co. \$30.....	Dec 3-Dec 25		
Mount Tenabo S. M. Co. \$1.....	Annual Meeting Nov 22		
Nonpareil G. & S. M. Co. \$1.....	Nov 5-Nov 25		
Nuestra Sra de Guadalupe S. M. Co. \$1.....	Nov 5-Nov 25		
North S. F. & M. Co. \$1.50.....	Nov 12-Dec 15		
Napoleon C. M. Co. \$3.50.....	Nov 24-Dec 10		
North Star O. S. M. Co. \$10.....	Dec 10-Jan 5		
Ophir S. M. Co. Nevada, \$5.....	Nov 19-Dec 10		
Opportunity of the Colorado S. M. Co. \$1.....	Annual Meeting Nov 13		
Overman S. M. Co. \$5.....	Nov 17-Dec 4		
Providencia G. & S. M. Co. \$2.....	Nov 24-Dec 8		
Patrocina and Dolores S. M. Co. Mex. \$1.25.....	Nov 17-Dec 3		
Paicine Rolling Mill Co. \$1.....	Nov 27-Dec 13		
Rope Gravel M. Co. \$1.....	Nov 5-Nov 21		
Salamanca O. & S. M. Co. \$20.....	Nov 24-Dec 19		
San Marcial S. M. Co. Mex. \$1.....	Oct 19-Nov 21		
Santa Cruz Petrol Oil Co. \$1.....	Nov 17-Dec 2		
Sierra Nevada S. M. Co. \$2.50.....	Nov 3-Nov 20		
Santiago M. Co. dividend.....	Payable Oct 8		
Savage S. M. Co. dividend.....	Payable Nov 9		
Scholar Bros. & M. Co. \$1.....	Dec 3-Dec 25		
Tolueme M. G. & S. M. Co. \$1.....	Dec 8-Dec 24		
Tularem O. & S. M. Co. \$1.....	Nov 15-Dec 5		
Yellow Jacket S. M. Co. div. \$50 sh.....	Payable Nov 15		

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, November 9, 1895.

United States 7-10ths.....	Bid.	Asked.
Gov. Legal Tender Notes.....	75 1/2	75 3/4
State Bonds, 7 1/2 cent.....	70 1/2	70 3/4
San Francisco 10 1/2 cent.....	81 1/2	82
San Francisco Bonds, 1855, 6 1/2 cent.....	80	81
San Francisco Gas.....	64	65 1/2
San Francisco Bonds, 1858, 5 1/2 cent.....	70 1/2	72
Sacramento City Bonds, 5 1/2 cent.....	18	25
Sacramento County Bonds, 5 1/2 cent.....	15	25
Marquette Bonds, 10 1/2 cent.....	70	75
Stockton Bonds, 10 1/2 cent.....	85	95
Yuba County Bonds, 10 1/2 cent.....	80	85
Butte County Bonds, 10 1/2 cent.....	70	80
California Navigation Co.....	67	70
State Telegraph Stock.....	32	35
Sacramento Gas Co.....	75	75
Spring Valley Water Co.....	60 1/2	61

RAILROADS.	
Sacramento Valley Railroad.....	—
Omnibus Railroad.....	55
Central Railroad Co.....	60
North Beach and Mission.....	45
MINING STOCKS.	
Alpha.....	\$ — \$ 70
Sullivan, G. H.....	12 1/2 13
Belcher.....	52 59
Confidence.....	80 85
Ophir.....	80 85
Gould & Curry.....	450 460
Empire M. & M. Co.....	107 110
Savage.....	1430 1440
Chollar Potosi.....	155 —
Hale & Norcross.....	1750 —
Yellow Jacket.....	652 1/2 653
Overman.....	1 1 1/2
Crown Point.....	920 925
Imperial.....	108 107

San Francisco Market Rates.

WHOLESALE PRICES.

FRIDAY, Nov. 9, 1895.

Flour, extra, @ bbl.....	6 00 @ 7 00
Do Superfine.....	5 50 @ 6 00
Corn Meal, @ 100 lb.....	2 00 @ 2 50
Wheat, @ 100 lb.....	1 75 @ 2 15
Oats, @ 100 lb.....	1 45 @ 1 55
Barley, @ 100 lb.....	85 @ 1 00
Beans, @ 100 lb.....	2 50 @ 4 00
Potatoes, @ 100 lb.....	75 @ 1 25
Hay, @ ton.....	7 00 @ 10 00
Live Oak Wood, @ cord.....	8 00 @ 10
Beef, on foot, @ lb.....	8 @ 10
Beef, extra, dressed, @ lb.....	10 @ 12 1/2
Sheep, on foot.....	3 50 @ 4 00
Hogs, on foot, @ lb.....	8 @ 9
Hogs, dressed, @ lb.....	11 @ 12
GROCERIES, ETC.	
Sugar, crushed, @ lb.....	12 1/2 @ 13
Do China.....	10 @ —
Coffee, Costa Rica, @ lb.....	25 @ —
Do Rio.....	24 @ —
Tea, Japan, @ lb.....	80 @ 90
Do Green.....	50 @ 1 25
Hawaiian Rice, @ lb.....	9 @ —
China Oil, @ gal.....	5 1/2 @ 7 1/2
Cauldies, @ lb.....	16 @ 23 1/2
Ranch Butter, @ lb.....	35 @ 52 1/2
Lard, @ lb.....	30 @ 40
Cheese, California, @ lb.....	10 @ 17
Eggs, @ doz.....	50 @ 60
Lard, @ lb.....	18 @ 20
Ham and Bacon, @ lb.....	18 @ 20
Shoulders.....	12 1/2 @ 15

Retail Prices.

Butter, California fresh @ lb.....	45 @ 75
Do pickled @ lb.....	40 @ 50
Do Oregon.....	35 @ —
Do New York, @ lb.....	40 @ 60
Cheese, @ lb.....	15 @ 25
Honey, @ lb.....	30 @ 40
Eggs, @ doz.....	60 @ 65
Lard, @ lb.....	20 @ 25

Hams and Bacon, @ lb.....	22 1/2 @ 25
Cranberries, @ gal.....	75 @ 1 00
Potatoes, @ lb.....	1 1/2 @ 2
do Sweet @ lb.....	1 1/2 @ 2
Onions, @ lb.....	@ 5
Onions, @ doz.....	3 @ 5
Apples, No. 1, @ lb.....	3 @ 5
Pears, table @ lb.....	8 @ 10
Plums, dried, @ lb.....	20 @ 22
Peaches, dried, @ lb.....	15 @ —
Oranges, @ doz.....	50 @ —
Lemons, @ doz.....	75 @ —
Chickens, apices.....	87 @ 1 12
Soap—Palo & C. O.....	8 @ 16
Castile.....	14 @ 16

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the Mining and Scientific Press, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1886.

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

ANSTED'S Gold Seekers Manual. 1 vol. 12mo. cloth.....	\$ 1 75
ANTISELL.—The Manufacture of Photogenic or Hydro-Carbon Oils, from Coal and other Bituminous Substances, capable of supplying Burning Fluids. By Thomas Antisell, M. D. 1 vol. 8vo.....	3 00
BUCKLAND (Rev. Wm.)—Geology and Mineralogy. 2 vols. 8vo. cloth.....	10 00
DUFRENOY.—Mineralogie. 5 volumes, 8vo.....	20 00
DANA'S Manual of Mineralogy. Revised edition. 250 illustrations. 12mo. cloth. New Haven, 1863. School Edition.....	2 25
DANA'S Manual of Geology. Numerous Illustrations. 8vo. half morocco. Philadelphia, 1863.....	6 75
DANA'S Text-Book of Geology. Illustrated. 12mo. cloth. Philadelphia, 1844.....	2 25
ELDERHORST'S Blowpipe.—Analysis and Determinative Mineralogy. Third edition, revised. 8vo. cloth. Philadelphia, 1866.....	1 50
FAIRBAIRN.—Iron: its History, properties, and Processes of Manufacture. By Wm. Fairbairn, C. E., LL. D. 1 vol. 8vo. New Edition.....	4 00
FEUTCHWANGER.—A Treatise on Gems. 1 vol. 8vo. cloth.....	1 75
GOODYEAR'S Translation. A Treatise on the Assaying of Copper, Silver, Lead, Gold and Mercury, from the German of Th. Bodeman and Bruno Kerl. 1 vol. 12mo. cloth.....	2 50
HUMBLE.—Dictionary of Geology and Mineralogy. Third Edition, Revised 1 vol. 8vo. cloth.....	9 00
HOSKOLD'S Practical Treatise on Mining Land and Railway Surveying, Engineering, Etc. 1 vol. 8vo. cloth.....	16 00
KUSTEL.—Nevada and California Processes of Silver and Gold Extraction, for general use, and especially for the Mining Public of California and Nevada; also, a description of the General Metallurgy of Silver Ores. By Guido Kustel, Mining Engineer, illustrated by accurate engravings. 1 vol. 8vo. cloth.....	5 00
LAMBORN.—Rudimentary Treatise on the Metallurgy of Copper. 1 vol. 12mo. limp. cloth. Illustrated.....	1 00
LAMBORN.—Rudimentary Treatise on the Metallurgy of Silver and Lead. 1 vol. 12mo. limp. cloth. Illustrated.....	1 00
MITCHELL'S Manual of Practical Assaying. 1 vol. 8vo. cloth.....	10 50
MAKINS.—A Manual of Metallurgy, more particularly of the Precious Metals, including the Methods of Assaying them. By G. H. Makins. 1 vol. 12mo. cloth. Illustrated by upwards of 50 engravings.....	3 50
OVERMAN (Fred.)—A Treatise on Metallurgy, comprising Mining, and General and Particular Metallurgical Operations. 1 vol. 8vo. cloth.....	7 50
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PHILLIPS AND DARLINGTON.—Records of Mining and Metallurgy; or, Facts and Memoranda for the Use of Mine Agents and Smelters. By J. A. Phillips and John Darlington. 1 vol. 12mo. cloth.....	4 00
PERCY (John).—Metallurgy; the Art of Extracting Metals from their Ores, and adapting them to various Purposes of Manufacture, Iron and Steel. 1 vol. 8vo. cloth.....	13 50
PLATTNER AND MUSPRATT on the Use of the Blowpipe. 47 Diagrams. Third edition, revised. 8vo. cloth. London, 1834.....	6 00
Practical Use of the Blowpipe; being a Graduated Course of Analysis. 12mo. cloth. New York, 1838.....	2 00
SCOFFER'S Useful Metals and their Alloys. 1 vol. cloth.....	5 50
SMITH'S Blowpipe.—Vade-Mecum. The Blowpipe Characters of Minerals Alphabetically Arranged. 8vo. cloth. London, 1862.....	1 75
URE'S Dictionary of Arts, Manufactures, and Mines. 2300 Engravings. From last London edition. 3 vols. 8vo. cloth. New York.....	16 50
WHITNEY.—A Geological Survey of California. Report of Field Work from 1850 to 1861. By J. D. Whitney. Per. vol. quarto.....	3 75
WHEELER & RANDALL'S Quartz Operator's Handbook. Flexible cloth, 12mo. San Francisco, 1865.....	1 00

Any of the above Books will be furnished by return mail or express, on receipt of the price with postage added. Any other books desired will also be furnished at the lowest San Francisco retail prices.

Address, DEWEY & Co., Mining and Scientific Press Office, San Francisco, 1413-1415

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Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the *Miner* of November 3d: The Mowyer tunnel have struck through the hard rock they have been encountering lately, and cut a small vein of exceedingly rich black sulphure ore. Work is again commenced in the Boulder Hill. Mr. J. B. Scott has secured control of the old Pioneer location, and also of the old Scott's Hill Consolidated Tunnel, and is now building a house at the mouth of the tunnel, preparatory to commencing work. It is the intention to make a turn in the tunnel to the left, expecting to strike the celebrated Pioneer lode in from 100 to 150 feet.

Mr. E. L. Hoxey, who recently visited Alpine, and is one of the principal owners in the Mowyer claim, secured while here several mining properties which he will offer to friends in Illinois, and, if possible, get capital interested in for the purpose of opening and developing them. Among these claims are the Leviathan, Aurora, Summit, and extensions of the Mowyer and Mahogany.

Amador County—

From the *Ledger* of November 3d: The Pioneer claim is situated about one-half of a mile north of town, at the foot of the hill on which the Kennedy mine is located. The company are endeavoring to strike the Kennedy lode by running a tunnel. They are now in about 800 feet, and have got through the hard granite, and will undoubtedly soon reach the vein.

Meader & Co. have conditionally purchased the Blue Jacket mine. This is the first north extension of the Coney, and is owned by Messrs. Little, Dunning & Burwell. They have a shaft down about thirty feet. The rock is very good, and will, undoubtedly, prove to be a very good paying mine. Meader & Co. are to have until the first of April to prospect it, and in the meantime they are to sink a shaft one hundred feet deep on it, and if it proves to be what is now supposed they have the privilege of purchasing it at a price already agreed upon by the parties.

Calaveras County—

From the *San Andreas Register* of November 3d: Cave City, after passing through a trying ordeal, is again reviving. Good diggings have been struck by some of our enterprising Chili Gulch neighbors, and great things are expected so soon as the rains come.

Since the above was put in type, we learn that the Gold Hill company have excellent prospects. They sunk a shaft on their claim ninety feet in depth, and have been running a tunnel three hundred feet in length from the bottom, working a gang of men from each end, who are expected to come together to-day, when their mine will be in working order.

From the *Chronicle* of Nov. 3d: Horehner, Myers & Co. are steadily pushing forward work on their claim near Middle Bar. Their tunnel is now in about sixty feet, and has been run directly on the lode. The vein averages about five feet in width, and all the rock prospects exceedingly well. It is the intention of the company to have about fifty tons of the rock crushed at the mill below Middle Bar, and if it pays anywhere near as well as prospects indicate, steps will be immediately taken for the erection of a mill on the lead.

Myers, Wesson & Co. are still at work on their claim in Jackass Gulch. They have sunk a shaft about forty feet in depth, and are still going down. The lead is wide and the rock all contains gold.

Work has been suspended on the Sulphuret claim, in Dutch Gulch, for some reason. A shaft has been sunk on this lead to the depth of a hundred feet, and the vein, which is about twelve feet in width, is an almost solid mass of gold-bearing sulphurets.

Wallace, Cockley & Co. have developed one of the best leads in the county, at Whisky Slide. They have sunk a shaft a hundred feet deep, and at that distance from the surface the lead is a solid, well-defined mass of rich quartz, averaging seven feet in width. We have been shown some of the rock, all over the surface of which the precious metal was visible.

Humboldt County—

From the *Times* of October 27th: Further operations in boring for oil are about to be prosecuted in this county. At present the only well being put down is the Irwin Davis, which has attained the depth of something over 1,300 feet. We are now informed that the Union Mattole company have determined to resume operations on their land. The steam machinery of the Jeffrey company has been procured, and is to be set up and put to work immediately.

Kern County—

From the *Valhalla Courier*, Nov. 3d: In the Rio Bravo Mining District, situated in the southwestern part of this county, and en-

bracing a large part of Lower Kern river, Messrs. Jewett, Bull & Poe have found several lodes, which are thought will prove valuable upon working, as they all contain free gold in the surface rock. One of them, the General Washington, is three feet and a half wide at a depth of eighteen feet, and it is thought will justify a ten-stamp mill. It is being developed as fast as possible, two shafts having been sunk on a line with the lode, and the rock found good all through. A tunnel is almost finished to cut the lode at about seventy-five feet below the surface. When completed it will be about one hundred feet in length. There is plenty of wood and water and a good mill site close at hand. They have two arrastras completed to work the rock as they sink the shafts, and it is thought that the rock so worked will pay all expenses of the mine. Several other parties have been prospecting in this District, and most of them have found and located lodes which they intend working the coming winter.

The new mill of the Mammoth Company was started up on the 1st inst. It has twenty stamps, and is propelled by water power, the wheel being a horizontal iron one, six feet in diameter, with central discharge. Everything worked to perfection. The mill can crush from twenty-five to thirty tons of rock per day, and has an abundance of paying rock for years to come, from the famous old Mammoth mine, situated about one mile distant.

Nevada County—

From the *Gazette* of 3d November: We learn that extraordinary rich ore is now being taken from the incline on the Pennsylvania Company. It is composed mostly of sulphurets, assays of which have yielded over \$2,000 a ton. The ledge is now about a foot and a half in width, and the prospects more favorable than ever before.

Same of 7th: The Ancient Channel Blue Gravel Company commenced operations at Bear Valley last week. They have started a shaft four by twelve feet, which they intend to sink to the bed rock, having an over-shot wheel and using water-power for hoisting and pumping. The shaft was started at the edge of the valley, and after passing through the surface dirt which had washed down from the hills, they struck a bed of lava cement of eight or ten feet in thickness. Below this, they found a deposit of washed gravel, and on Saturday last, at a depth of about twenty-five feet, they struck a granite boulder covering the entire bottom of the shaft, which they will have to blast through. The shaft is substantially timbered and secured as they go down.

From the *Grass Valley National*, Nov. 3d: From 270 tons of rock from the New York Hill Mining Company's ledge, near this place, we are informed that the snug little sum of \$14,500 was realized after crushing. The Murphy ledge, located on Union Hill, is owned by Colonel W. O. Sidney, who has an agent to work it. The ledge was first struck in a tunnel 130 feet from its mouth, and is from one to four feet wide. Rock has been taken from this ledge which paid as high as \$50 to the ton. A new incline is now being sunk.

From the *Union* of Nov. 2d: A strike of rich gravel diggings is reported on the range between the south side of Deer Creek and Quaker Hill, about ten miles above Nevada. A company recently struck the lead, which is about nine feet in depth, and they found the gravel very rich. Four pans of dirt prospected \$38, some of the gold being coarse.

From the *Transcript*: Another new mining district of immense richness has just been opened near the Cascades on Deer Creek. The deposit is nine feet in depth, and prospects immensely from top to bed rock. From four pans of dirt they took \$38, some of the lumps being worth \$4. The channel is supposed to be a continuation of the great blue lead of Little York township, but the gravel is loose and of a reddish color. Some 7,500 feet have been located on the line of the channel.

A company have lately resumed operations on the Wagoner lead, which is located on Piety Hill, and have struck a ledge which is some five inches in width, and is said to be very rich in sulphurets. The company have their tunnel in some 80 or 90 feet, and it is said to be the opinion of those at work in the tunnel that the main ledge is not far distant.

A man named Murchie has struck a rich ledge on what is supposed to be the extension of the Big Blue Ledge. The new ledge is located about one-eighth of a mile from Deer Creek, and is worked by a tunnel. The ledge is about two feet wide, with walls as clearly defined as the walls of a brick building. The rock is decomposed, containing a large amount of ochre, and is filled with fine free gold. Mr. Murchie is now engaged in working out the ledge from the level of the tunnel to the surface.

EXCELSIOR.—The Meadow Lake Sun gives a statement of the bullion shipped by the different mines of that township during the month of October. The total amounts to \$6,674.78, of which the U. S. Grant sent

\$4,750, the Mohawk and Montreal \$1,294, and the remaining \$630 by the Enterprise, Wisconsin, Gold Run, Eclipse and Empire companies. The U. S. Grant and the Mohawk and Montreal appear to be the only mines in the district that were regularly worked during the month.

Three tons of rock from the Empire mine, Meadow Lake, was lately taken to Nevada, and will be crushed in one day or two at Palmer's mill. The Peacock Copper, Nickel and Cobalt Company, recently incorporated, with a capital stock of \$675,000, is to work the Elwell Ledge, Meadow Lake district.

Plumas County—

Correspondence of the Marysville Appeal, dated Nelson Point, Oct. 31st, gives these items: Murken & Co., on Nelson creek, in their last shift, have averaged \$4 per day to the hand. They have got nearly all their gold, thus far, out of tailings—pieces from \$1 to \$3, in early times, having been run through the sluices from the high bars. They have a 12-foot back, which requires so little picking as to keep the men shoveling most of the time. They work seven men, and then cannot keep the derrick always busy. Jimmy Canavan, who is working close to the "Point," and wheeling his pay dirt fifty yards, is making wages.

Messrs. Jackson, Jelly & Mitchell propose putting up another hydraulic with 400 feet of iron hose, and are, with that exception, ready for the rains. Hardy's claims have not been worked "successfully;" nor have they paid common wages for the last three years. Richards & White, the Deep Hole Company, have abandoned their claim. They have spent the whole season, considerable money, and have received no returns.

There has been considerable excitement within the last two weeks in regard to some, said to be rich diggings in Long Valley creek, about twenty miles above here, on this river. It has been reported that Pearson & Co., got nine ounces off of a piece of bed rock eight feet square. But I have conversed with men who worked on the creek before, and they say \$4 per day was the most that they ever made. I have also heard that those nine ounces were the product of nearly as many weeks' labor, and they not having made much over a dollar per day while gathering it.

Sacramento County—

From the *Folsom Telegraph*, Nov. 3d: Within the limits of Sacramento county, discoveries are being made, which if the leads continue as they have, will cause a furor in mining operations in the foot-hills. In all mining operations throughout the foot-hills, within a radius of ten miles of Folsom, the miners have worked to what they supposed to be the bed rock. On Maine Flat, opposite this town, on Negro Bar, on the Flat upon which Folsom is situated, at Texas Hill, Alder Creek, Prairie City and Willow Spring Hill, they call the bed rock lava; but in the flat at Folsom, this is evidently a marine formation, its thickness being unknown. It is filled with sea-shells, and seems to have been a deposit of mud. Through the action of time and other causes this has hardened almost to stone, but is easily worked with the pick.

In all of the above named diggings this appears to be the character of the formerly called bed rock. Beneath this bed rock, on Maine Flat, five companies are now at work in hard cement, which contains no kind of stone or rock except quartz, in pieces varying in size from the smallest pebble to the size of a man's head, which is said to contain fine gold. The miners are working upon the granite, and find it sloping downward beneath the high hills, and the cement upon it increasing both in thickness and richness, until it some claims it is twelve feet thick, with old lava bed rock above it. The gold taken out is of a rusty color, coarse and irregular in shape, like gold found in quartz rock. It is not smooth or water-worn, and the miners insist that it is an original deposit. The channel is much lower than the bed of the American river.

On the Folsom side of the river the cement has been struck within the last two weeks, the streak being now about eighteen inches thick and increasing with the granite pitching. The same kind of cement has been discovered at Mississippi Bar, and will be prospected. The belief generally prevails that a new era in mining has opened in the foot-hills, which will bring to light claims far richer and more extensive than any heretofore worked. We have seen, during the past week, cement that paid as high as a dollar and a half to the pan.

Shasta County—

From the *Courier*, Nov. 3d: At South Fork, work on the Chicago is temporarily suspended. The lode shows splendidly in the shafts and tunnels. The Big Central shaft has been tapped by a tunnel and the water let off. Work now goes bravely on, with prospects as good as in the Chicago. The Crystal Company have not yet commenced operations, but are getting ready as fast as possible.

The Pacific Company have completed an arrangement with Mr. Hawley, from the Ne-

veda county mines, to run a tunnel to the ledge, striking it about one hundred feet below the croppings on the surface. The company give nine hundred feet of the original claim for the work.

In Middletown, the Tornado Company, after piping with a 22-foot head against a bank of about the same height, with very little profit to anybody except the ditch company, ran two drifts, each about thirty feet in length, placed therein a few kegs of powder, and touched it off. The effect was satisfactory. A large amount of earth was thrown down in such a shape as to be easily washed. Blasting will be continued.

The Mammoth Company cleaned up on Saturday last, with very satisfactory results, the rock yielding on an average \$17 per ton. Their previous run worked an average of \$25 per ton. At French Gulch, evidences of prosperity abound. Quartz pays; Gartland & Co.'s placer claims pay; Souter & Co.'s claims pay; and all branches of industry thereabouts pay.

Sierra County—

From the *Downieville Messenger* of November 3d: The Masonic diggings at Allegheny are paying remarkably well. The Greenback mill, on Kaneka Creek, is running, and report says is doing well. Fac Simile, at Allegheny, is prospecting finely, and the tunnel is being pushed ahead. The Union Quartz company at Allegheny have out about fifty tons of fine ore. The Keystone Gravel company, at Minnesota, cleaned up, after a run of two weeks' working six hands, the sum of about \$1,600. The Mammoth ledge, at Sailor Ravine, has been sold to Joseph Clark for the sum of \$12,000. Some time since this claim was conditionally sold, but the parties failed to come to time. Machinery will be erected immediately for working the mine.

John Billings, at Virginia Flat, six miles above Downieville, took out of a crevice in eight days and a half the sum of seven hundred and eighty-nine dollars with the work of two men. The gold was found in a crevice about five feet wide by nine feet high, and paid from the top down. It paid evenly and well for two months, when the crevice became exhausted. The best pay found was about four feet above the bed rock.

In the Slug Cañon Quartz mine the works have, until recently, been idle for more than a year. Recently, in the main tunnel, not more than twenty feet from the mouth, a ledge several feet wide has been found, which prospects remarkably well. The rock taken out is mostly decomposed, and easily mined and milled. A force of four men are at work, and already ten or twelve tons of ore are in the dump house. Good judges estimate the ore to be of a quality that will pay from twenty to twenty-five dollars per ton.

Independence Quartz company, at Sierra Buttes, are running a westerly adit level on the vein, a very rich rock, with 120 feet back. Shaft is down forty-eight feet, and the ore improves as the shaft progresses. Keystone is quarrying rich rock. The edit level is rapidly progressing. The mill is not running, owing to a scarcity of water, which difficulty will be obviated when the edit level reaches the vein.

Montpelier company is crushing Sailor rock with good results. The rock is paying about eighty dollars per ton. Their new flume is approaching completion. The Good Hope company are custom crushing at the Gold Bluff mill, rock averaging thirty dollars per ton. The Page ledge, in Sailor Ravine, has been purchased by Clarke & Co., of San Francisco, for \$12,000. Johnson & Co., southerly extension of Page ledge, have struck the vein six feet wide, with rich prospects in several places on the line of their claim. Mexican company, at Downieville, have had a test crushing made at the Montpelier mill, which yielded twelve dollars per ton fine gold. The concentrated sulphurets assay at the rate of \$830 per ton. A quantity of rock from the Oro mine was recently crushed at the Montpelier mill, resulting in a yield of twelve dollars per ton. This was average rock, taken from five different places on the vein, which is sixty feet wide.

Parties from San Francisco are negotiating for a purchase of the American Hill mine, in connection with a rich deposit of cemented gravel in an extensive ancient river channel, covered a hundred feet deep by basaltic lava. This deposit of gravel is about forty feet deep by seven hundred feet wide.

Bear Valley correspondence of same gives these items: An assay of General Grant rock, taken from the depth of seventy-five feet, showed one hundred and fifty dollars in silver and forty-seven dollars and six cents in gold, making a total of two hundred and three dollars and six cents. The Enterprise have sunk a shaft down on their ledge and have commenced drifting. They expect to reach the ledge in about one week. The Hamilton company have sunk a shaft on their ledge to a depth of forty feet. The Lady Ellen company, the second southerly extension of the Sugar Pine ledge, have stripped their ledge

across; it is thirty-four feet wide, and they are sinking a shaft down upon it.

Yuba County—

From the Marysville *Appeal* of November 6th: Our correspondent at Brown's Valley sends us the following: "The new engine and machinery on the Jefferson claim started last week, and everything seems to be working nicely. They are taking out daily and crushing a large quantity of good quartz. The shareholders may again look for their ten if not for twenty dollars monthly dividends. Work is progressing on the Pennsylvania mill and claim. The new mill and machinery will be ready and in running order at the end of this month. Its prospects have never been brighter. I see people doing some work for the Pacific Mining company. I also observe some movement around the Dan. Webster claim. I learn, however, that before this company start to work seriously, it will cause to be segregated a certain portion of other ground belonging to absent parties."

Washoe—

NEVADA.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

From the Gold Hill *News*, Nov. 2d: Yesterday we took a trip around among the mines in lower Gold Hill. At the new works of the Yellow Jacket we found they were hoisting out fine looking ore. The Kentucky mine are hoisting through the shaft of the Yellow Jacket a large amount of good ore, which is deposited in the lower dumps. The same company are also hoisting ore through their own shaft. The new hoisting works of this company are now almost completed. The Crown Point has never taken out more nor better ore than at the present.

Some of 3d: The Alpha mine, Gold Hill, has suspended operations for the present, not because of bad prospects, but for the reason that, being some one hundred feet deeper down than any other mine in the Hill, they had such a large body of water to contend with that it was next to impossible to do anything toward developing the mine at the 800-foot level. The indications in the Alpha are extremely good. The time is not far distant when the new shaft of the Empire and Imperial will be down to an efficient depth to drain all these mines. As soon as that time arrives we may look for all the mines of Gold Hill to be in full operation.

An evening or two ago we saw a large silver brick in the assay office next door. Its weight was one hundred and three pounds, and its value upwards of six thousand dollars. It was one of nineteen bricks jointly owned by the Imperial and Crown Point—the total weight being upwards of fourteen hundred pounds.

From the Virginia City *Union*: The Empire and Imperial companies, at Gold Hill, have sunk their new shaft 650 feet, at which point a fine body of ore has been developed. It is their intention to keep on sinking until they attain the depth of 1,000 feet. The Chellur-Potosi is engaged in sinking its shaft, and is now down 640 feet at the new works. The Savage Company is still working down with the intention of reaching 1,000 feet before stopping. The Gould & Curry Company are now engaged in erecting heavy machinery at the Bonner shaft on D street, for the purpose of sinking deeper. As soon as any of the above companies reach the depth of 1,000 feet, we do not doubt but that the Comstock lode will be found extravagantly rich, and will thereby establish beyond a doubt the future prosperity of Nevada.

Reese River—

From the *Reveille*, Oct. 27th: The new re-verberatory furnaces for the Keystone Mill are completed, and will receive their first fire and ore this evening. They are a valuable addition to that fine mill, and will greatly increase its capacity, as nearly all our ores require roasting. . . . Capt. Page, of the Keystone Mill, says that the uniform price of crushing, whether in large or small lots, is now \$45 per ton.

Same of 31st Oct.: We learn from Mr. D. P. Bell, who returned yesterday from the Cortez District, that the reduction works of the Mount Teabos Company are a complete success. In the amalgamating department the Varney pans are used, with the addition of copper wings—the invention of Mr. Dunaing—and with the happiest results. The mines of the company are being worked with energy.

Colonel D. E. Buel arrived in town from Belmont yesterday afternoon with nine bars of bullion, valued at about \$9,000. The bullion was the product of Col. Buel's mill in the Philadelphia District.

Same of Nov. 2d: We learn from Judge David Cooper, who returned this afternoon from Silver Bend and Ophir Cañon, that the High Bridge mine continues to improve under work, and presents a splendid appearance.

From the Nye County *News* of Oct. 27th: We learn that the Belmont Water Tunnel

Company, in the Philadelphia District, have struck a fine stream of water in their tunnel. This will become a valuable property, as water is yet rather a limited article in that camp. The water is pure, and from the direction of its flow any number of mills can be furnished sufficient power to be kept constantly employed.

Rumboldt—

From the *Register*, Oct. 27th: This week, A. W. Nason, Superintendent, has closed up negotiations which secure to the Trinity and Sacramento Company the entire Montezuma claim. The purchases covered 820 feet, at \$50 the foot, eoin. Almost the entire amount has been paid. The fires will not again be allowed to die till at least the ore already out of the mine—400 tons—has been smelted. From the face of drifts and shafts now into the ledge, the ore can be taken out fast enough, with the start now on hand, to keep the furnaces employed through the winter. The mine is well opened for the comparatively slight depth attained, and the ledge shows most promisingly. The Etna mill belonging to this company has been removed down to Oreane, and will furnish, together with the Trinity mill, all the crushing force necessary for preparing ore for the furnaces. The building for the furnaces is 60 by 75 feet, and will accommodate five furnaces—three for smelting, one for calcining, one for refining. When the full force of furnaces is under blast, they will turn out, it is calculated, 30 tons of metal every 24 hours.

IDAHO.

From the Owyhee *Avalanche* of October 27th: The Poorman mine has been closed up for the winter. This was done in accordance with the terms of the settlement between the Hays & Ray and Poorman companies, as it was then agreed that work should be continued until November 1st, for the purpose of proving the value of the mine—and the latter has been done to the entire satisfaction of all hands, including the public generally. From the best information we can obtain, it is the intention of the N. Y. & O. Co. and P. F. Bradford—the owners—to have the mine placed in the possession of one company—by sale of all or purchase of part. During the coming week the mills will have finished working the balance of the ore now taken from the mine.

Twenty tons of Rising Star ore have recently been worked in the Lincoln mill with very poor results. It was not roasted, and that is given as the main reason why it did not yield larger. By assay this ore yields from a few dollars to several hundred per ton. W. H. Wickersham informs us that he has made different tests by pulverizing several pounds of the rock, putting it in a crucible and roasting it three or four hours in a blacksmith's forge, and thus secured results of over \$500 per ton. He is of opinion that thorough roasting will be necessary to work it successfully.

THE SILVER CORN.—This mine is yielding very rich ore as usual. We were shown very rich ore, in large chunks, by Mr. Musgrave, of the Cosmos mill, that came from this mine recently. Free flake gold abounds in the white solid quartz. Some difficulty is experienced in working the ore in consequence of the presence of antimony, sulphur and iron.

From the *Statesman* of October 23d: The Wind River expedition is a failure. All the different parties have broken up and dispersed in different directions—some to Salt Lake, others to the Missouri River, Montana, and some are coming back to Idaho. The failure to find mines, we are convinced, is not from lack of energy in the men who composed those parties, but because the mines are not there.

From the Idaho *World* of October 20th: During the week Col. Preston showed us a piece of exceedingly rich quartz, taken from the Leonora ledge, in the Yuba district, in Alturas county, at a depth of over forty feet. He left a day or two ago for the East, overland, and has taken several fine specimens with him. . . . The East Hill Tunnel company have struck rich indications at a depth of 350 feet in their tunnel.

MONTANA.

From the *Post* of October 20th: The mill of the National Mining and Exploring company in Oro Fino Gulch, Edgerton county, has a 15-horse power engine carrying ten stamps, of 630 pounds each, with 9-inch fall. Twelve hundred tons of ore are now on hand. . . . Messrs. Poethelwhite & Co. are erecting a 24-stamp mill at the point where Eagle Bird empties into Grizzly Gulch. The ledge averages eighteen inches of paying ore, and has yielded from thirty to fifty dollars per ton in the old Sultan mill.

For several weeks back reports have been rife of the discovery of new and rich diggings on the head waters of the Palouse, distant from Walla Walla about 150 miles. A party of prospectors—among them David Weston of Walla Walla—visited that locality early last spring, and although they obtained unmistakable indications of gold, owing to high water and other causes, they were unable to work to

advantage. A portion of the party returned to Walla Walla, whilst others remained and continued to prospect the country, and have at length succeeded in finding rich placer mines.

OREGON.

From the *Oregonian*: Late prospecting on the South Fork of the Santiam demonstrates the fact that there are numerous bars between Canal Creek and the settlements of the Willamette which will pay from two and a half to four dollars per day when properly worked with sluices. The best pay has invariably been found back next to the permanent banks. The parties making these prospects averaged about two dollars from prospect holes, with a rocker of rough construction.

COLORADO.

From the *Journal*, Oct. 16th: A friend just in from Argentine, informs us that everything is flourishing in that locality. Stowell & Co's furnace is running. Jon Watson started his furnace on Saturday last. The wagon road from Elizabethtown to the mines will be completed in about three weeks.

Editorial correspondence of same: At Fairplay this morning Mr. C. W. Lowe showed us ten ounces of beautiful gulch gold taken from the bar above town last week with two hands. Mr. Lowe says he has taken out from six to fifteen ounces a week all the season. The works are quite extensive. Four or five parties have long sluices. The bar is fifty to sixty feet deep, and old settlers have little doubt that it will pay to work for a thousand feet back on either bank. . . . The American Exploring company is preparing to put in a bed-rock flume at Fairplay next season, and purchase a tract there sufficient to justify them in going to considerable expense.

Above and below Hamilton, there have been nearly a hundred men gulching all the season, and they have done well. Extensive preparations for hydraulic mining have also been made. Here, opposite Fairplay, eight or ten companies are operating, which have made through the season half an ounce a day to the hand. Good prospects are obtained all over the northwestern portion of the Park, not too far from the numerous streams. Fairplay is on a stream formed by the confluence of the Montgomery, Buckskin, Musquito and Horseshoe branches, and is but eight or ten miles below those towns.

From the *Deaver News*: We were shown yesterday, by Mr. S. B. Kellogg, of this city, a specimen of specular iron ore, from a vein discovered near Laporte, on the Cache-la-Poudre. The ore assays sixty-five per cent. iron, and the vein is forty feet wide, every particle of material within the walls being apparently as rich as the specimen assayed.

From the *Denver Gazette*, October 19th: Whitney & Whiting have purchased eight hundred feet on the copper lode in Montezuma, from Duffield & Cooper, for the sum of ten thousand dollars. The same gentlemen have also made an agreement with O'Donald & Donnelly, to purchase four lodes in the neighborhood of Breckenridge for the sum of twenty thousand dollars. The most valuable of these lodes is the Bunker Hill, which has over four feet of galena at a depth of six or seven feet from the surface. The Cooper lode, in Montezuma district, has a crevice of ore from two to three feet wide on the surface, and has been traced for over one thousand feet up the mountain.

ARIZONA.

The new mill of the Vulture mine had arrived at Fort Yuma on October 20th. . . . One hundred and fifty ounces of gold from Walker's mill, near Prescott, was brought to this city by the steamer Orizaba, which arrived on the 6th inst.

AMATEUR MINING.—The Idaho correspondent of the New York *Tribune*, writing from Rocky Bar, Alturas county, deprecates the fact that although the quartz mines in that region are unquestionably rich, nearly all the companies who have attempted to work them are bankrupt. He attributes it to the fact that the managers know nothing of mining. As an instance of the absurd manner of doing things, he mentions the Defrees company, of Indiana. "This company built a mill at a place called 'Volcano' in this county, right in the heart of the best grazing and agricultural portion of the Snake River Valley. The mill is intended to go by steam—18-horse power, ten stamps, built by the Eagle Iron Works company at Chicago, is twelve miles from any considerable supply of wood, and fully thirty miles from any mine that will ever pay for working."

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San Francisco March 6, 1865. 11v10-11

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THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years' steady and successful experience in working ores in Washoe and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address: F. M. SHAW, San Francisco, care Mining and Scientific Press. 13v13-14

GEORGE H. POWERS, M. D., Gives exclusive attention to Diseases of the Eye.

No. 626 California street, between Dupont and Kearny.
Dr Powers refers, by permission, to Rev. A. L. Stone, D.D., Ira P. Rankin, Esq., L. E. Benchley, Esq. 17v13-6m

For Sale—Cheap.

A GOOD PAYING BUSINESS, TOGETHER WITH THE good will of the party, controlling the entire trade of this city and State. It is suitable to any intelligent business man, and has averaged about \$600 per month. It is now offered low, solely because the proprietor is compelled to leave the city. Address "S. H.," Lock Box 602 Post Office, or inquire at S. W. HOWLAND'S, No. 24 California street, San Francisco. 17v13-1m

PATENT BUSINESS.

We have lately associated with us in the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner. DEWEY & CO., Patent Solicitors. San Francisco, June, 1866.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

C. W. M. SMITH,.....W. B. EWER,.....A. T. DEWEY.
DEWEY & CO., Publishers.

Office—No. 505 Clay street, corner of Sansome, 2d floor.

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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the Mining and Scientific Press in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
SAN FRANCISCO, Jan 11th, 1866.

San Francisco:

Saturday Morning, Nov. 10, 1866.

NOTICES TO CORRESPONDENTS.

OWING to the large amount of correspondence received relating to interesting points connected with Mining, Metallurgy, Mechanics, etc., we are compelled, for want of time and space, to reply briefly in the following form to a portion of such queries as are of general interest.

VENTILATION OF MINES AND TUNNELS.—C.

J. H., OF FOREST HILL., requests that attention may be called to this subject, which we admit, with him, to be of serious importance. C. J. H.'s communication appears to be written more with the object of requesting the opinion of others, rather than as expressive of his own. As, however, he has given a very concise resume of the methods commonly adopted, we submit the same in a more formal manner than they were conveyed in his letter to us. We do so with the object of directing the more pointed attention of those who may feel disposed to give some little consideration to the matter, and afterwards to communicate their views through the medium of this journal. C. J. H. assigns as a reason why he has addressed us, that in consequence of seeing the many valuable suggestions which were obtained from many quarters in consequence of our lately ventilating the matter of the employment of syphons in mines. C. J. H. describes the following modes as being adopted:

1. Two tunnels are run, one to work the mine through (if they find one), the other for ventilation, respecting which method C. J. H. observes, that the latter, when the charge for closing old connections and openings are included, not unfrequently costs more than the former or main tunnel.
2. When water can be obtained, what is termed the "water blast" is employed, which occasions a current of air, owing to a fall of water over the mouth of the tunnel, the fresh air being conveyed into the interior of the mine by means of tin or zinc pipes a few inches in diameter.
3. Having a furnace at the exterior connected with a series of similar pipes.
4. By a larger pipe or box of wood, elevated considerably above the mouth of the tunnel and continued into the mine, similar to the piping described in previous instances.

C. J. H. complains that all the above methods embrace outlays too great for poor prospectors, and would like to know if any simpler and less expensive methods are practicable. We invite suggestions on the subject, which, as we think the circumstances admit, will be inserted in full or digested in a resume.

AGRICOLA, GEORGETOWN.—There can be no doubt that the foothills of California present the finest field in the world for the profitable and secure investment of small capital, when associated with a hard-working family. Agriculture may present fewer great prizes, as compared with mining occupations, but on the other hand, it is a pursuit in which occur few failures when accompanied by industry and its almost invariable attendant—health. A well organized system of impoundage of our winter floods, to be distributed in the dry season for mining, manufacturing and agricultural uses, is much needed. Such a system, if perfected, would permanently add millions to our annual wealth.

J. K., HUMBOLDT.—We have not learned, up to the present time, that any species of the emerald, or its less valuable variety, the beryl, has hitherto been found on this part of the Pacific coast. It is not improbable that the mineral you allude to is some form of silica, colored green by a carbonate or other salt of copper. The finest emeralds are obtained from the Muso mine, near Santa Fe de Bogota, New Grenada. It was from this mine that the large and perfect hexagonal crystal was obtained which is owned by the Duke of Devonshire. It weighs 8 ozs. 18 dwts. The matrix was a very dark, highly carbonized limestone.

GOLDSMITH.—Touchstone, the name given to the stone employed in your business to test the fineness of gold, is a silicious stone of the jasper variety, having usually a very dark or black color. The latter character assists much a purchaser or operator in estimating the amount of gold present in a specimen, especially when the streak drawn across the stone has been acted on by nitric acid.

B. Y., MOXO.—The substance you allude to is probably chert, or as it is sometimes called, hornstone. If so, it will simply consist of an impure flint, which it greatly resembles, hornstone commonly being more splintery in fracture, and also more brittle than flint.

RAILROAD TRACK-LAYING MACHINE.

Mr. W. D. Robertson, the inventor of the Railroad Track-Laying Machine, which we noticed in our issue of September 1st, has constructed a model of the same, which he is now exhibiting to the mechanics and capitalists of this city in the room over the Blue Wing saloon on Montgomery, near the corner of Clay street. The model on exhibition is of working size, being about six feet long and one foot in width. It is placed upon a small track, in front of which is a section of road graded for receiving its track. When the machinery is set in motion, it goes forward, dropping the ties, one after another, in place, until a sufficient number are laid for receiving a length of rail. The machine then stops for a moment while two rails are dropped into place from opposite sides of the machine, much as a boat is lowered from the cranes of a ship. The moment the rails are laid they are adjusted by attendants upon the ground, while the machine moves forward, dropping into their places the ties for another section. By the time these are in place and another set of rails swung over the side of the machine, the attendants are prepared to receive and adjust them also. Thus the machine may move on, hour after hour, at the rate of two and a half miles every twelve hours. A scraper precedes the machine, to make smooth any trifling inequalities that may exist on the grade.

The arrangement for dropping the ties consists of a large wheel, built very much like the wheel of a stern-wheel steamer, without floats, only in this case the wheel is forward. It turns toward the machine. At the extremity of each set of arms are notches, into which, as they come slowly round, is dropped, by hand, a sleeper, that is carried down to the graded surface of the road, which the wheel overhangs, and at the proper interval, regulated accurately by machinery, the sleeper is dropped on its flattened side, while at the same instant four huge stumps (two only exhibited in the model) come down upon its surface with sufficient weight to bed it firmly in the earth and hold it in position, while two cutters, with knives like those of a planing machine, pass across its upper surface, cutting to its proper depth the seat or gain for the rail or chair. By the time this is done the next sleeper is on the ground, when the weights or stamps are immediately raised and dropped upon it, and so on. The sleepers are piled up in front of the wheel, and two attendants taking them up by either end, readily drop them, one after the other, into their places on the wheel. There are four or five sleepers upon the wheel all the time. As the car is propelled and the wheel turned by the same power and connected by gearing, everything operates like clock-work, and every timber must fall into its proper place and at the proper interval of time.

The machine is easily adjustable, may be made to drop its sleepers at any desirable distance apart, and will work upon curves. A supply train to any extent may follow the machine, across which, through its entire length, is laid two small side tracks, for hand cars, upon which the ties are carried from the rear of the train to the forward part of the machine. The rails, as they are wanted, are dragged forward from their place of deposit to the front of the machine over rollers, much as a log is dragged from a pond up the logway into the mill, by a donkey engine or by hand. The whole apparatus is extremely simple, compact and inexpensive. A machine for practical working can be constructed in this city for from \$3,000 to \$4,000. It is calculated that twenty-five men, by the aid of this machine, will be able to lay two and a half miles of track in twelve hours; while by the old method it will require over one hundred men to lay half a mile in the same time. The great saving of time and labor is chiefly effected in carrying the material forward upon the machine as the work progresses, doing the work with few men, no one of which is ever in the way of another, etc.

The whole machinery is arranged on true mechanical principles, and experienced machin-

ists and railroad men, who have witnessed the working of this model, express the opinion that it cannot fail to do its work, and do it accurately and effectually. The inventor is now exhibiting the same with the view of calling the attention of capitalists to its practicability, to the end that some one may be found who will furnish the means of first giving it a practical trial in this State. It is an invention which belongs to the Pacific coast, and one which we think is destined to play a prominent part in future railroad construction; and it is to be hoped, for the credit of our own mechanics, that it may be first put into practical use here.

THE EXPECTED METEORIC DISPLAY.

The savans predict an unusually brilliant exhibition of meteors at some time between the tenth and fifteenth of the present month. Meteoric showers have been witnessed in August of each year since 1837, with considerable regularity. But it is believed that the one now looked for will be of the same character with that which occurred on the nights of the 12th and 13th of November, 1799, and on the corresponding nights of 1833, suggesting the probability that a period of one-third of a century elapses between the times of coincidence of the earth's orbit with their track.

Remarkable single meteors have appeared, at times which, with our present lack of data, seem to be irregular; although it is probable that many of these, too, like comets, have their regular periods of revolution. The origin of meteoric showers is not definitely explained by scientific men. Prof. Olmstead, of Yale College, thinks that they are portions of a nebulous mass revolving around the sun, in an orbit whose aphelion meets the orbit of the earth once a year, at the time when the annual display to which we have referred, occurs. It is probable that meteors are not self-luminous, but that they become incandescent upon plunging into the earth's atmosphere, owing to the exceeding condensation produced by their tremendous velocity, thereby causing ignition of their own substance. The remarkable meteor of July 20th, 1860, was seen by a Boston gentleman through a powerful telescope. He chanced at the moment to be looking at the planet Mars, and seeing the light of the meteor, he turned his telescope upon it and followed its course. He noticed that the sparks forming the train came from the front of the mass, where the compression of the air being greatest, the combustion was most intense. The display of 1833, to which we have alluded, was the most extraordinary on record. It is said that at least a quarter of a million of these meteors were visible at that time.

WISDOM IN INSURING.—One of the most satisfactory investments made, is that of insuring a life in sound, reliable companies, such as are conducted upon liberal and rational principles. Foremost among these companies, stands the "Old Connecticut Mutual Life," which we recommend to the consideration of every prudent individual who has a desire to procure a policy. In making bank deposits men are careful to place their hard-earned treasure in good hands. They should be equally cautious to whom they entrust their premiums for insurance. It is our opinion that there is no safer company than that advertised in this paper, and represented on this coast by Messrs. A. D. Smith & Co.

CALIFORNIA BRASS FOUNDRY.—This establishment, whose advertisement appears this week, was established in 1850. Having been recently enlarged, and affording superior facilities for turning out creditable work, the present proprietors, by a strict attention to business, hope to obtain their full share of the public patronage.

PATENT FOR SALE.—The Rock Drilling Machine of Mr. R. A. Thomas appears to be an article much needed in many of our mines. The patent right is advertised for sale. Mr. Thomas is a practical miner, and has used this drill in his mines at Damascus, Placer county, for the past two years.

ADVERTISING AGENCY.—Messrs. I. N. Hudson and L. P. McCarty have formed a copartnership for the purpose of carrying on an advertising and general collecting business. They are both experienced and energetic business men, and all matters entrusted to them will be expeditiously attended to. In their circular they agree to be responsible for, and pay all advertising bills entrusted to them, at the expiration of ten days after the term for which they are inserted—the carrying out of which proposition will be appreciated by interior publishers and journalists. Their office is located at No. 315 Montgomery street.

SODIUM AMALGAM.—We would call attention to the advertisement in another column, headed "Important to Workers of Gold and Silver Ores." Mr. Slosson, the California agent of the Wurtz Amalgamation Company, is prepared to supply the licenses for the use of the sodium amalgam, and also the amalgam itself, as prepared by the inventor. Persons at a distance who may be desirous to obtain more particular information upon the use of this new amalgamating agent, will do well to apply to the agent for the Business Circular just published by the Company.

THE PACIFIC MAP DEPOT.—A. Gensoul, at the Pacific Map Depot, 511 Montgomery street, keeps constantly on hand a large assortment of maps, atlases, guide-books, etc., of every description. Either the traveler or the student may there find almost everything in this line which he can need or desire. All the most recent county, state and local maps which have been issued on this coast, may be found at Gensoul's, a large portion of which have been published by Mr. Gensoul himself.

THE HORSEFALL GUN, made in 1856, is to be fixed at Tilbury Fort, to protect the entrance of the River Thames. This gun is fifteen feet ten inches in length, and the diameter of the bore is thirteen inches. The weight is 53,846 pounds. It is a solid forging of wrought iron, bored out. The forging was done under a 15-ton hammer. The charge of powder is about fifteen pounds. The solid shot used weight 282 pounds each.

ANCIENT RIVER CHANNELS.—Our correspondent, "Viajador," commenced a series of articles in our last issue, concerning the gravel deposits of Sierra county, which should be read by all placer miners. Even if they do not agree with "V.," we are sure they will gain much by examining his views on the subject. His communication this week is a continuation of his description of the mines of that county.

LOOKING GLASS AND PICTURE FRAMES.—Having examined some very fine examples of work at the new store of Mr. Kollmyer, who has recently opened on Third street, we take pleasure in calling attention to his advertisement, believing that he is prepared to turn out as fine specimens of workmanship as can be found anywhere in his line.

THE DAILY TIMES made its appearance on Monday, the 5th—the day promised by its proprietors. It has the best typographical appearance of any daily in San Francisco, and exhibits a spirit of energy and liberality which we are constrained to say has not lately characterized the daily press of this city, according to our experience.

CASTINGS.—Messrs. Palmer, Knox & Co., of the Golden State Iron Works, in this city, melted over 290,000 lbs. of metal during the month of October. They manufacture a superior article of white iron shoes and dies, for stamp batteries and amalgamating pans and grinders.

O. M. CLAYES, State Printer, and John McComb, have recently become associated with Fred. MacCrellish and W. A. Woodward, in the publication of the daily *Alta California* newspaper.

PLUMBERS AND GAS FITTERS.—If you want work in this line, warranted to prove satisfactory, see advertisement of McNally & Hawkins, which appears this week.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, new and important inventions; also, the list of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which, in view of local interest to readers on this side of the Continent, most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent Issued.

PATENTS RECENTLY ISSUED.

STEAM VALVE.—David Sexton, San Gabriel, Cal.: This invention consists of a thimble-shaped valve, provided with a transverse partition and fitted on a central spindle, which is held in position by a suitable taper screw, in combination with a cylindrical valve chamber, and with suitable steam and exhaust ports situated on opposite sides of the transverse partition in such a manner that by said partition the pressure is separated from the exhaust end of the valve and thrown entirely on a center or pivot, and a valve is obtained which works free and easy, and the position of which can be regulated from the outside.

CARD CASE.—F. A. Lamontagne, Montreal, Canada: This invention consists in the construction of card cases with a combination of springs and slides for the discharge of a card at a time without opening the lid, by simply pressing a slide on the top with the finger. It is designed for the use of ladies especially.

CIPHERING MACHINE.—Samuel J. Kelso, Detroit, Mich.: This invention relates to a machine which can be used for adding, subtracting and multiplying figures of any desired magnitude, with the greatest ease and facility.

CAR WHEEL.—E. S. Robinson, New York City: It consists in having the body or main portion of the wheel of cast iron and composed of two plates of disk form, the convex surfaces being at the outer side, said plates being connected at their peripheries by cross pieces, the two plates and cross pieces being all cast in one piece. The tire or tread of the wheel is of wrought iron or steel, and is secured upon the body or main portion by means of rivets.

DISTILLING OIL.—Samuel Andrews, Cleveland, Ohio: 1st, I claim the fire chamber, C, and reverberatory chamber, F, in combination with the throat, C, and the openings, I, in the manner and for the purpose substantially as set forth. 2d, I claim the reverberatory chamber, F, in combination with the throat, A, as and for the purpose specified. 3d, I claim the flues, J, when separated from the walls of the throat by the wall, J', as and for the purpose set forth.

PISTON-ROD PACKING.—Charles P. Beaoit, Detroit, Mich.: 1st, I claim the corrugated or grooved packing rings, D, D, in combination with the elastic coil of packing or stuffing, E, the cup-lipped flange, G, the annular space around the piston rod, C, or the lubricating chamber, H, with its connected oil cup, I, and the screw bolts, K, K, with the springs, b, b, under the nuts, c, c, all constructed, arranged, and related to each other substantially in the manner and for the purposes herein described. 2d, I claim the lubricating chamber, H, combined with the piston rod, C, the flange, G, and the packing rings, D, D, substantially as and for the purposes herein described. 3d, I claim the cup-lipped flange, G, combined with the elastic coil packing, E, and the corrugated rings, D, D, constructed and operated substantially as and for the purposes herein described.

MACHINE FOR ASSORTING POTATOES, COAL, ETC.—Mahlon D. Dickinson, Pitts' Grove, N. J.: I claim the crank shafts, A, A, sieves, B, B, and suspension rods, E, E, when combined and arranged, as and for the purpose set forth.

INDIA-RUBBER NECKTIE.—William H. Hulsey (assignor to David N. Ropes), Hoboken, New Jersey: I claim the arrangement of the band of metal, or its equivalent, in a necktie, formed of hard india rubber, or similar material, under the external strip or band, passing around the bow and necktie, for confining together and holding the several parts of the necktie, and preserving the external band from fracture, substantially as above described.

FORGE FURNACE.—Bennet Hotchkiss, New Haven, Conn., and Henry Shattuck, Hamden, Conn., assignors to Bennet Hotchkiss: We claim—1st. Combining a forge, A, with a reverberatory furnace, C, in the manner substantially as described for the purpose specified. 2d. Applying a current of air, whether set in motion by an artificial blast or by the chimney draught, to cool the furnace doors and to furnish a draught to the fire, in the manner substantially as described. 3d. The use of an air blast to prevent the flames and gases from the belching from the furnace when the door is opened, arranged and applied substantially as described. 4th. The combination of a cistern, K', arranged as described, with the furnace, A, for the purpose of converting into vapor a body of water by the waste heat of the furnace, and applying such vapor to stimulate combustion, substantially as set forth. 5th. Combining with the escape flue, J', a space, L,

for the circulation of air, and connecting the same with the furnace for aiding the draft of the fire, substantially as described.

IRON RAILROAD CARS.—S. Merrick, New Brighton, Pa.: This invention relates to the manner of connecting together and securing the panels to the car, whereby the constructing of iron cars is greatly facilitated and the panels rendered capable of being readily removed for repairs when necessary, and peculiar advantages afforded for the finishing of the interior of the car.

FURNACE AND BOILER.—Henry McClure and James Ellis, Tero Haute, Ind.: This invention is designed to furnish an improved furnace and boilers so constructed and arranged that the heat shall strike the boilers, except the first one, above any deposit of sediment that may be in them; that the draft may be adjusted to all changes of weather; and that it may be a complete smoke consumer.

METHOD OF SCOURING WOOL.—Gustave Michelet, Brussels, Belgium: I claim the combined process for extracting from the wool itself all the elements necessary for cleaning, scouring or removing the soil from the same, and of obtaining by the same operation liquids free from foreign matters which would decrease the value of the products derived from them, and sufficiently concentrated for forming these sub-products with advantage, substantially as above described.

STAMP MOISTENER.—H. A. Hoyt, Mott Haven, N. Y.: This invention has for its object to furnish an improved apparatus for moistening stamps preparatory to attaching them to their places.

CENTER PIERCE.—Samuel Kellett, San Francisco, Cal.: Two patents. Designs.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In one half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE. DEWEY & CO., Patent Agents, 505 Clay street, San Francisco.

ARTISTIC.—Any one wishing to see excellent specimens of engraving, will find themselves amply repaid by calling at the office of Mr. W. E. Goldsmith, whose address will be found in our advertising columns. Mr. G. has for a long time taken the lead in his profession in this city.

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10

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IMPORTERS OF

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FIRST PREMIUMS!



FOR PRINTING,

AWARDED AT THE MECHANICS' INDUSTRIAL EXHIBITION

SAN FRANCISCO, 1865.

—AND AT THE—

State Fair at Sacramento, 1865,

—TO—

DEWEY & CO.,

BOOK AND JOB PRINTERS,

PUBLISHERS OF THE

MINING AND SCIENTIFIC PRESS,

505 Clay street, San Francisco.

To Miners and Families Living in the Country.

DR. BOYNTON'S MEDICINE CHEST, is put up in San Francisco expressly for the use of families, and consists of a chest of moderate dimensions, neat in its appearance, containing those household articles, simple remedies, that families always feel like keeping on hand for immediate and common use, and a book of brief instructions, describing their use.

The object in preparing this Chest was not to make doctors; but for the simple purpose of nursing; hence, a majority of the remedies are such as are familiar to nearly all who are advanced in life, and the book is simply a representation of those plain truths relating to the department of the nurse already set forth in more extensive works. It was the object, not to say many things, but to say few things—to simplify and make plain for common use. And in selecting the contents of the Chest, the object was not to set forth something new and wonderful, but those of old and acknowledged worth.

In view of the above facts, physicians have everywhere encouraged the circulation of this chest in unmistakable terms. They recognize the fact that families do not, will not, need not call on them on the occasion of every slight derangement or infirmity. They do not and cannot deny the fact that such obligations of home care rest upon heads of families.

The book gives a description of nearly every medicine in the collection, their use, and their component parts, so that every person may know what he is receiving into his stomach or applying to his person. This openness and frankness is regarded by the best practitioners, and all considerate persons as justice, more than policy. The universal conviction of the more thoughtful is, that that which relates to our health and physical well being in this life should, above all things, be known, and not kept in the darkness of secrecy.

In introducing this chest in the country, we always first submit it to the criticism of practicing physicians, and feeling the importance and seeing the necessity in this sparsely settled country of home-nursing, and seeing the adaptability of this chest, physicians in San Francisco, Sacramento, Stockton, Knight's Landing, Cacheville, Marysville, Colusa, Oroville, Lincoln, Folsom, and Auburn, have given it their hearty sanction. Seeing the necessity on this coast of people relying upon themselves in such matters, physicians in this State have remarked: "If I could choose but one for a family, I would every time choose the nurse instead of the physician." "If families would get a collection of simple remedies, with plain instructions for their use, they would do away with half the doctoring." "All families should possess themselves of a collection of common remedies, with plain instructions for their use." "I would like to see the chest in every family." "It is a convenience." "It is useful." "Much sickness and much expense might be saved by such home care."

We submit the following statistics from Sutter County, California:

"The undersigned have had Dr. Boynton's Medicine Chest in their families for the last few months, and willingly state that they regard it as a wise provision, strictly practical and highly useful."

Every person having the chest in the above named county has signed the above article. The publishing of the names being unnecessary, we withhold them and save space.

The undersigned have known Dr. Boynton's Medicine Chest for the last few months, and regard it as a wise provision, and highly useful in every family. The medicines being put up with instructions, its utility, convenience, and great economy are unquestionable.

Signed by Judge HERBERT and 45 others.

STATE OF CALIFORNIA, County of Sutter, ss. I, C. E. WILCOX, County Clerk in and for said County, hereby certify that I am personally acquainted with a majority of the individuals whose names are subscribed to the foregoing certificates, and that they are good and substantial citizens of said county.

Witness my hand and official seal this 27th day of [L.S.] December, A. D. 1865.

C. E. WILCOX, County Clerk.

Agents wanted in every County to sell this Family Chest. The compensation will be a liberal commission on all sales.

The Agent should be a resident of the district which he is to canvass, and accompany his application with good references, and of this city if possible.

We can give further particulars when desired.

All letters should be addressed through the post office, to E. NORRIS, San Francisco.

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CARDS Sterrett & Cubery, PRINTERS, 533 Clay street, Lower Rates — BELOW — MONTGOMERY STREET. 19v13-3m

Mammoth Quartz Lode, Keyville District, Kern County.

"To all whom it may Concern."

ALL PARTIES negotiating for interests in the above Lode, would do well to examine titles before investing, as the legal title to a considerable portion thereof is vested in the undersigned.

WILLIAM MARSH,

W. L. KENNEY.

Keyville, Kern County, Oct. 1, 1866. 16v13m7m

ENGRAVED TO ORDER.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices. DEWEY & CO., Patent Agents, Publishers and Job Printers, 505 Clay st

THOMAS' Rock Drilling Machine!

Patent Right for Sale.

I WILL OFFER FOR SALE, UNTIL THE SEVENTEEN day of November, 1866, the Patent Right of a new and effective Drill.

FOR DRILLING SLATÉ BED ROCK,

And other similar kinds of rock. There is a large amount of rock to be drilled in California, for which this Drill is just the thing that is needed.

The Patent papers (dated August 7th, 1866) can be seen by parties interested. A working size machine, now being constructed, will be ready for exhibition in a few days. Address the subscriber at the Office of the MINING AND SCIENTIFIC PRESS, or call on me at the same place, 505 Clay street, between three and four o'clock, P. M.

R. A. THOMAS, Inventor and Patentee. San Francisco, November 10th, 1866. 19v13

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GLASGOW IRON AND METAL IMPORTING CO.,

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Beg to inform purchasers that they have just received a large stock of Glasgow and Staffordshire best refined Bar Iron, Boiler Plate, Anvils, Cast Steel, Boiler Tubes, Gas and Water Pipes, GAS FIXTURES, etc. They offer the same for cash, on liberal terms, at wholesale and retail. The Company have superior facilities for supplying the constant demands of the market. Country Orders punctually attended to. 19v13-q

QUINCY HALL CLOTHING EMPORIUM!

545, 547 and 549 Washington street, (Near Montgomery), SAN FRANCISCO.

For a Dress Suit, A Business Suit, or A Working Suit, GO TO QUINCY HALL!

For Shirts, Collars, Drawers, Undershirts, Socks, Ties, Gloves, or any other FURNISHING GOODS, GO TO QUINCY HALL!

For Hats, Caps, Trunks, Valises and Carpet Bags, JUST GO TO QUINCY HALL!

If you want a SUIT MADE TO ORDER, of Foreign or Domestic Cloth, ALWAYS GO TO QUINCY HALL!

IT IS THE LARGEST AND CHEAPEST CLOTHING HOUSE IN SAN FRANCISCO.

All Goods Warranted as Represented

—AT—

QUINCY HALL,

Nos. 545, 547 and 549 Washington street, 19v13-3m Next to Montgomery.

CALIFORNIA BRASS FOUNDRY.

No. 123 First street, opposite Minan, SAN FRANCISCO.

ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

PRICES MODERATE. V. KINGWELL 19v13-1 J. H. WEED.

JOHN WRIGHT, Pick Manufacturer,

No. 229 Fremont street, between Howard and Folsom, SAN FRANCISCO.

Has always on hand a general assortment of PICKS for Quartz and Surface Mining. Particular attention is called to his RAISE EYE QUARTZ PICK, which is especially adapted to Quartz Mining, and guaranteed to give good satisfaction. 19v13-y

IMPORTANT WORKERS OF GOLD & SILVER ORES.

THOSE INTERESTED WILL FIND IT TO THEIR ADVANTAGE to call on MR. WILLIAM SLOSSON, at Prof. W. P. Blake's Office, and obtain a Business Circular, just published by the WERTZ ALUMINATION COMPANY of New York, who have secured the Patents of Prof. Henry Wurtz, the sole and exclusive right to the use of sodium in amalgamation. Mr. Slosson is prepared to supply the licenses of the Company, with the material for applying this new and wonderful discovery, by which, in the words of President Bernard of Columbia College, "two grains of gold may be gathered where but one was before." 19v13-2m

ELECTROTYPING CUTS, ENGRAVINGS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State.

Brevities.

ONE million and a half of cigars are made to San Francisco monthly.

The seedless Zante grapes have attained perfection in Santa Clara county.

B. D. WILSON, of Los Angeles, has some four hundred lemon trees on his plantation, nearly one-half of which are of the Malaga variety.

NICHOLAS WOOD, an eminent coal miner, a man well known to the English public, and the especial and intimate friend of George Stephenson, is dead.

TWENTY-FIVE tons of peanuts, raised by Chinamen in Yolo county, were shipped for this market in one day. They are said to be larger and finer than those imported.

A locomotive lately run the distance from Berlin, Connecticut, to Hartford, in fourteen minutes, or nearly a mile a minute, under steam produced by peat fuel.

The Turks pound their coffee in a mortar, instead of grinding it as we do. The pestles, after long use, become precious, and bring great prices. Savarin says that coffee thus treated is far superior to that which is ground.

The town of Healdsburg has been somewhat excited over reported rich "strikes" of gold-bearing quartz on Russian river, near Geyserville. Rumor says several gold ledges have been found, and rock taken out which showed the yellow particles of gold to the naked eye.

BALDWIN's Locomotive Works, in Philadelphia, has turned out an engine, named "Consolidation No. 63," which weighs 38 tons 6 cwt. It has eight driving wheels, forty-eight inches in diameter, with but a single truck; length of furnace one foot, 173-inch flues, 20-inch cylinder, with 24-inch stroke. The weight of the engine rests upon the drivers. In a trial made a few days since this engine drew seventy-five empty coal cars up a 146-foot grade.

PROFESSOR EAMES, assistant State Geologist of Minnesota, has examined the Vermilion Lake mines. He reports the veins as true fissure veins, and says they yield gold and silver in quantities which will abundantly pay for working. They are easily traced for a distance of a mile and a half. The auriferous district, however, is limited in extent, and its geological limits were distinctly traced in the surrounding rocks, which enclose a gold-bearing district of about fourteen miles long and eight in width.

WEEDS.—The microscope reveals the fact that every stem and twig as large as a quill contains some ten thousand little tubes, through which the water, or sap is constantly passing upward during growth, to the leaves above, which spread it out by means of their fine net-work, and give it in the form of vapor to the air. With ten weeds upon a square foot, it is estimated that the careless farmer has forty-four million pumps at work on every acre, dissipating the moisture and drying up the soil at the expense of the crops.

Machinists and Foundries.

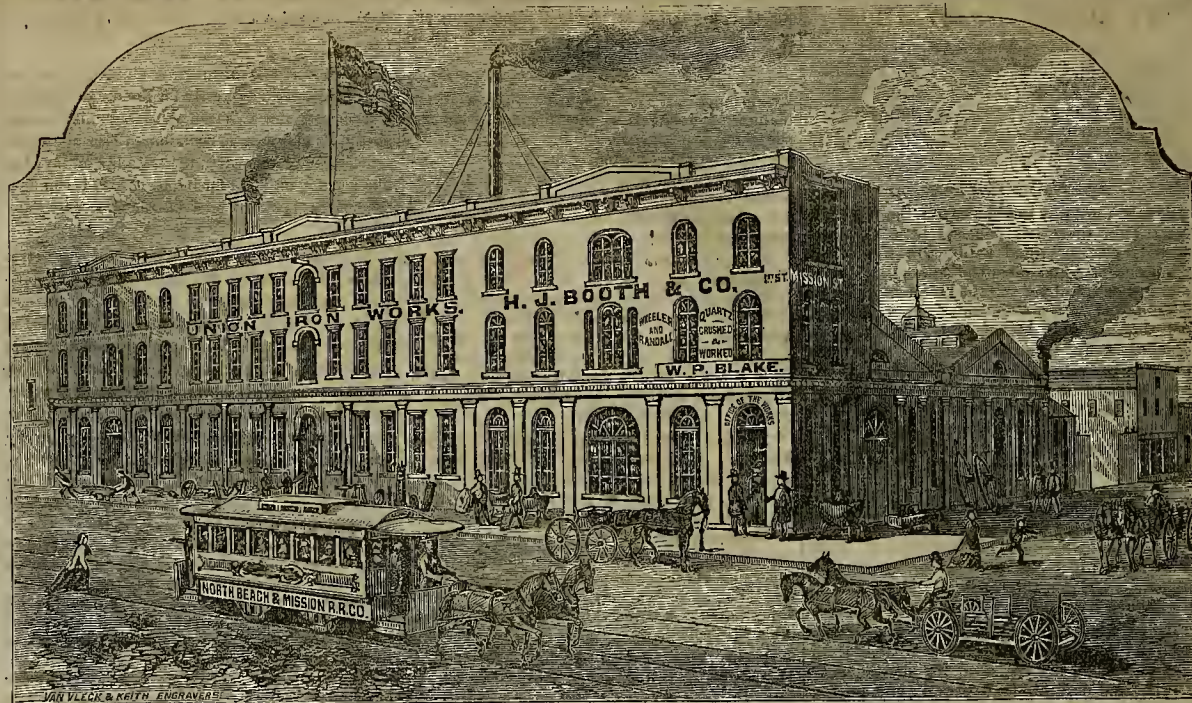
PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight;
without excessive friction, and never
gets slack or leaky.
WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any
wheel in use. There are over 1,600 running,
giving universal satisfaction.
KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies

Our Patent Agency.

The PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been organized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and Foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trust, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

A neat and useful journal One of the most presentable and useful in the State. —[Sunday Mercury.]



Established in 1849—Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, Screw and Drop Presses, Coaling Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.
ENGINES. Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.
BOILERS. Locomotive, Flat, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.
PUMPS. The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY. Wheeler & Randall's improved Tractory Curva Pan, Zenos Wheeler's improved flat bottom pan, Beldin's pan, Vetch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Cearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wool or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Gams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.
OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.
Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.
H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT.

24x12

H. J. BOOTH & CO.

GEORGE T. PRACY,
MACHINE WORKS,
Nos 109 and 111 Mission street, between Main and Spear,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND
REPAIRED.

Special attention paid to Repairing. — 24x12

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PACIFIC FILE FACTORY

No. 53 Beale Street,
Between Market and Mission streets, San Francisco.

FILES RECUT AND WARRANTED AS GOOD AS NEW,
or no charge. The only establishment in the State.
We also manufacture Reapers and Mower Sections.
Sv13-ly
DURNING & FISHER, Prop'rs.

LEWIS COFFEY. J. S. WILSON
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality.
Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

GLOBE

Foundry and Machine Shop,
STOCKTON, CAL.

KEEP, BLAKE & CO.,

MANUFACTURERS OF
Quartz, Saw and Grist Mill Irons, Steam
Engines, Horse Powers,
Mining and Irrigating Pumps, Car Wheels, Derrick Iron
House Fronts, Iron Fencing, Balcony Railings, etc.,
at San Francisco prices. Orders solicited
13v13-ly and promptly executed.

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERRECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction. 19v12-3m

F. N. BACON. LINAS STEWART.
BACON & STEWART,
PRACTICAL MACHINISTS,
No. 51 Beale street, San Francisco.

All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING PRESS work.
All jobs entrusted to us will be attended to with promptness and on reasonable terms. The patronage of Printers is respectfully solicited. 15v12-ly

J. O. HANSOM. H. S. SMITH. HANSOM & CO., 17 PENDERGAST. W. W. HANSOM.

Etna Iron Works!

Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

HANSOM'S CRUSHER,

The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and
Amalgamator,

Which only needs examination to be appreciated.

Tyler's Improved Water Wheel;
Giving greater power, at lower cost, than any wheel in use.
Send for one of our circulars, giving full tables
All Wheels warranted to give the power as set forth, or
the money will be refunded.

Sole makers for this coast of the "Pendergast
White Iron Stamp Shoes, and Dies.
None genuine unless obtained from us. Every one warranted.

Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited. 19v12

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,
Grinder and Amalgamator, Brodie's
proved Crusher, Mining Pumps,
Amalgamators, and all kinds
of Machinery.

45, 47 and 49 First street, between Market and Mission street, San Francisco. 3-1y

NEPTUNE IRON WORKS,

Corner of Mission and Fremont streets,
SAN FRANCISCO.

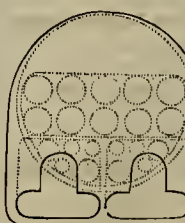
MARINE

Locomotive,

And all kinds of
HIGH PRESSURE
Steam Boilers
MADE.

All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.

All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.
Old Boilers Repaired
D. CAMERON.



6v12-ly

UNION IRON WORKS,
Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF

STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old cylinders, manufactured to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

SAN FRANCISCO

Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of
Marine and Stationary Engines;
Quartz Machinery, Saw, Flour and Sugar Mills, Mining
Pumps, Hoisting Gear, Agricultural implements, etc.
—ALSO—

Wine, Elder, Cotton and Tobacco Presses
of the latest Improved Patterns.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston
Packing, requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.

6v11-ly DEVOE, DINSMORE & CO



JAMES MACKEN,
COPPER SMITH,
No. 226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S
Steam Engine Works,
Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive.
HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 25v12-3m

Gold Discoveries in New Brunswick.

The following is a portion of a private letter from an old subscriber of the MINING AND SCIENTIFIC PRESS, to a friend in this city:

I have been exploring through this Province all summer for minerals. I have found gold in four counties, being the only four that I explored, and I am in hopes that I may make something out of my summer's work. I found gold first on the Serpentine river, a tributary of the Tobique, for a distance of twenty-seven miles along the river. The summer has been very wet, and at the time I was there I could not get to the bed rock, but found prospects on the surface of the bars which looked very promising—just as good as one would get in similar places in California. I then went to the Miramichi river. I found gold along the river for a distance of eighty miles, and in some places the prospects were good. I then tried the Shikihank river, that runs into the St. John, about thirty miles above Woodstock; also Grand Falls, seventy miles above Woodstock; Grier's Creek, fourteen miles below Woodstock; Bulls Creek, a short distance below Woodstock, and several other places throughout the counties named, and found encouraging prospects. The places that I have named you are quite familiarly acquainted with; and the area of the gold field that I have discovered up to the present time is about 480 square miles. I can scarcely believe myself when I come to think that there should be such an immense gold field in this Province.

I have secured a lease for fourteen square miles on the Serpentine. The lines of the lease do not follow the sinuous course of the river. This makes me owner of twenty-three miles along the river. The whole course of the river is penetrated by quartz veins from a few inches to several feet in width; and the river bars and crevices of the slates contain gold from one end to the other. The terms on which I obtain the lease are as follows: I have the right to raise and carry all the minerals or metals—let it be coal, gold, silver, lead, tin, antimony, plaster of paris, salt, or any other mineral or metallic substance; also the right to manufacture or use the same for the term of twenty-five years, and at the expiration of twenty-five years the Government can take the mines by paying for all the improvements, the value of which is left to arbitrators; or they can continue to lease for the same term (twenty-five years), by my paying twenty dollars per square mile, that is, \$280 for the fourteen square miles, for the said term of twenty-five years. * * *

The Serpentine contains gold and silver, with very good indications of copper. The Wapaskagan contains gold and silver, plaster of paris, and mineral paint. The Shikihank contains iron, gold and lead, with indications of silver. The Beccaguimec contains gold and iron.

Woodstock, N. B., October 1st, 1866.

MELLVILLE C. KEITH, M. D.

Homeopathic Physician,
No. 655 Howard Street, between Second and Third,
SAN FRANCISCO.
Devotes special attention to CANCER, PARALYSIS and
CHRONIC DISEASES. Consultation free.
1513 6mm

HAYWARD, COLEMAN & CO.,
IMPORTERS AND REFINERSIlluminating, Lubricating,
—AND—
PAINT OILS!

CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR,
TANNERS' NEATFOOT, BOILED AND RAW
LINSEED, CASTOR AND CHINA NUT.

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of MILL owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand.
413-3m19 414 Front street, San Francisco.

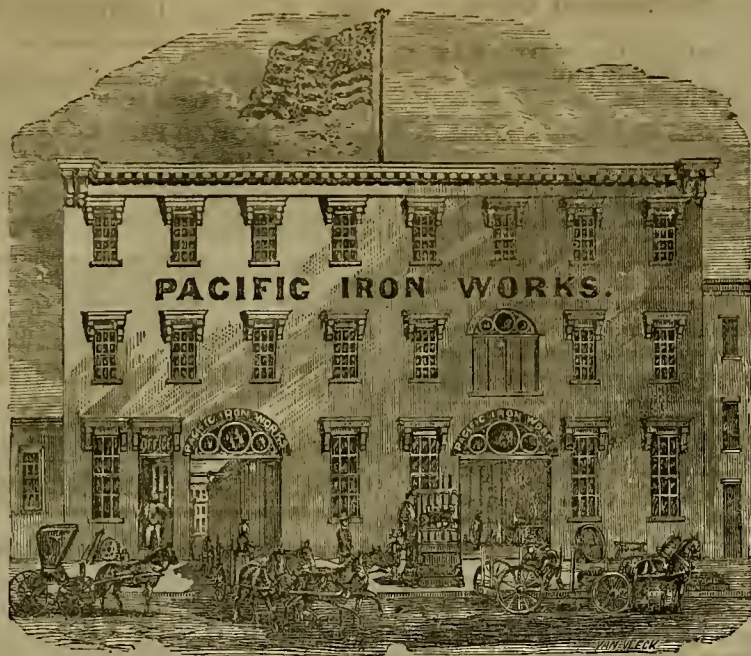
California Steam Navigation
COMPANY.

Steamer CAPITAL, CAPT. E. A. POOLE.
" CHRYSOPOLIS, CAPT. A. POSTER.
" YOSMITE, CAPT. W. BROWLEY.
" CORNELIA, CAPT. W. BROWLEY.
" JULIA, CAPT. E. CONCKLIN.
One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SENATOR leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.

Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE,
President.

The Mining Press has entered upon its thirteenth volume. It is a valuable publication in its sphere, and its sphere is a large and important one. [Marysville Appeal.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.

International Hotel,

JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents 21v12 F. E. WEYGANT, Proprietor.

GOVERNMENT HOUSE,

Corner of Sansome and Washington sts.,
SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN every direction every ten minutes. The rooms of the House are well furnished, large and airy, are let by the month, week or day, and are kept in superb order. There is a Restaurant attached for ladies and families, where persons can board for one-half they are required to pay at hotels. 17v13-6m SANBORN & CO.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets, opposite Steamboat Landing.
Meals, 25 cents.
Board, per week, \$4.00.
Board and Lodging, per day, 1.00.
Single Rooms, 50 cents.
Railroad Ticket Office and Stage Office on first floor. 7v12-3m A. J. SENATZ, Proprietor.

Rheumatism!!

ANOTHER WITNESS!

SALMON FALLS, June 17, 1865.
H. BOWMAN—DEAR SIR: HAVING HAD A FAIR test of the virtues of RICHARDS' REMEDY FOR RHEUMATISM, I take great pleasure in stating that its effects with me have been even better than its recommendations claim. In 1853 I first heard of the medicine. I had then been for three years severely afflicted with Rheumatism, and having tried everything I could hear of, without any permanent benefit, I concluded to try this also. On taking the medicine, in three days I experienced great relief, and in one week was entirely free from pain, and had completely recovered the use of my limbs, which had become powerless, so much so that I could not dress myself without assistance. Since that time I have been free from Rheumatism. I have recommended RICHARDS' REMEDY to numerous friends, and in every case it has proved successful. I therefore take great pleasure in recommending it to all who are afflicted with Rheumatism, and especially to all mercurial chronic Rheumatism cases. Yours respectfully, (Signed) ERASTUS PARSONS, President of the Gen. Grant Mining Company.

RICHARDS' REMEDY is for sale by H. BOWMAN, Druggist, Sacramento, 11v13 Price, \$2.50 per Bottle.

Important to Californians.—Many inventors have lately had their claims for Patents seriously and in some cases fatally delayed by the unequalled line of agents who have not complied with the Government laws and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press, Patent Agency has strictly complied with the requirements of the Department, and properly filed all necessary papers as Claim Agents.

Pacific Law and Collection Office

W. H. ALLEN,

Attorney and Counsellor at Law,
Principal Office at Rooms 11, 12 and 13 Amory Hall Building,
502 Montgomery Street, San Francisco, Cal.

Agencies at every City and Town on the Pacific Coast. Collections guaranteed with or without suit in all the cities and counties of the Pacific and Atlantic Coasts.

Legal advice will be given free of charge until after 1st January, 1867. Postage on letters asking advice must be paid both ways. 8v13-3m

REMINGTON'S ARMORY.

Agency, 310 Washington st., San Francisco.
PRICES REDUCED!

These arms have been preferred by the United States Government, and stand unequalled by any in the world. Revolvers, Army, Navy, Belt and Pocket, Double and Single Action; Repeaters, and vest-pocket Pistols, with copper ammunition; Police Revolvers, a new model, navy size ball, 4 1/2 to 6 inch barrel; Rifle Cane, an entirely new arm—having a range and accuracy equal to a rifle, and a most perfect Canc. All the new models for sale very low. 12v13f

ALBERT E. CRANE.

RADICAL CURE
—OF—
RUPTURE!

Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process, 624 Washington Street, up stairs, Washington Bath Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU

Has his studies and manufactories in the same building. Every kind of Apparatus, Trusses, orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.

He has no connection with any Agency. 8v13-4y11p

BROWN & BEADLE,

Offer their services to
INVENTORS AND THEIR ASSIGNEES,

PATENT SOLICITORS.

They will make Preliminary Examinations in the Patent Office, with a view to ascertain the Patentability of any invention that may be submitted to them for that purpose; will prepare the necessary papers for those who wish to make Applications for

Patents for their Inventions,
—OR FOR—
EXTENSIONS OR REISSUES OF PATENTS

Already granted; will act as Attorneys in presenting Applications at the Patent Office, and in managing them to a final issue; will draw up Assignments; will examine into the condition of Rejected Applications when desired to do so, and undertake the prosecution of such as may be considered patentable, and do whatever else is usually done by Patent Solicitors.

Address, P. O. Box 257, Washington, D. C. 7v12-3m

Our Circulation.—THE MINING AND SCIENTIFIC PRESS has a large and permanent subscription list, and enjoys a more universal circulation among stockholders and persons directly interested in mining than any other paper on this coast.

CONNECTICUT

Mutual Life Insurance Co.

The Largest Life Insurance Company in the World.

ASSETS.....\$12,000,000.

THE CONNECTICUT MUTUAL

IS NOW THE LARGEST AND MOST PROMINENT LIFE Insurance Company in the world, and it has

The Largest Number of Members,
The Largest Amount Insured,
The Largest Surplus,
The Largest Business,
The Largest Income,

And as it obtains the LARGEST average rate of interest on its investments, and has had, through its whole history, the SMALLEST average expenses, it therefore affords insurance at LESS COST than any other Company.

The surplus premium (dividend) returned to Policy Holders during the current year is SIXTY PER CENT. of the premiums paid during the year ending 31st of January, 1863.

Insurance can be effected in this Company in all the forms desired, and to meet all the contingencies to which Life Insurance is applicable, among which forms are—

Whole Life Policies, by a continued annual life premium.

Whole Life Policies, by TEN annual premiums.

Endowment Policies, by a continued annual premium.

Endowment Policies, by a limited annual premium, for FIVE, TEN, FIFTEEN or TWENTY years.

Endowment Policies, made payable at any age stipulated.

ALL POLICIES issued by this Company are either non-forfeitable by their terms, or may be converted into those which are so, at the option of the insured.

This Company offers all the advantages of a CASH or NOTE Company. The assured are not required to give a note in part payment of the premium, but may, if preferred, pay the first four premiums in cash after which their dividends on Annual Premium Life, and Continued Premium Endowment Policies, will, if the past success of the Company is continued, reduce their premiums one-half. When notes are given for Annual Life and Continued Endowment Premiums, no notes will be required after the fourth payment, and the returned surplus—dividends—will be applied as cash to the reduction of the annual premium.

None but Unexceptional Risks Accepted; and only upon ages between Fourteen and Sixty.

DIRECTORS:

JAMES GOODWIN, HENRY C. ROBINSON,
GEOBGE S. GILMAN, GUY R. PHELPS,
MARCUS F. HOLMES, R. D. HIFANY,
New York, CHARLES F. THAYER, Boston.
N. M. WATERMAN, JOHN C. PALMER,
E. B. WATKINSON, THOMAS SISON.

GUY R. PHELPS, President.

Z. PRESTON, Vice-President.

W. S. OLMSTEAD, Secretary.

O. W. POWERS, Actuary.

A. D. SMITH & CO.,
General Agents Pacific Coast.

Office, N. W. corner Montgomery and Sacramento streets,
San Francisco. 17v13 p11

Accidental Insurance!

The Accidental Insurance Company
OF NEW YORK.

ISSUES POLICIES INSURING AGAINST INJURIES OF all kinds, and death resulting from accident. In case death does not result from the injury, the insured receives a weekly compensation as long as he is disabled (not to exceed twenty-six weeks).

ONE YEAR POLICIES.

\$5 will buy Policy for \$1,000, with weekly compensation of \$5.

\$10 will buy Policy for \$2,000, with weekly compensation of \$10.

\$50 will buy Policy for \$10,000, with weekly compensation of \$50.

SHORT TERM POLICIES.

Policies will also be issued for any other amounts within the limits before stated, for periods of one to six months, at rates in terms of the Annual rate, as follows:

1 month, 2-10.	4 months, 6-10.
2 " 3-10.	5 " 8-10.
3 " 4-10.	6 " 7-10.

GENERAL ACCIDENT TICKETS.

This Company also issues Tickets which are sold by many of its Agents at Hotels and Ticket Offices throughout the country.

They make Insurance for \$5,000, and \$25 per week compensation, against Accidents of every description, Travelling or otherwise; good for one to six days, as required, at TWENTY-FIVE CENTS PER DAY.

They are not simply Travelers' Insurance Tickets which cover only injury or death, the result of an "Accident" to the Public convenience in which the assured may at the time be travelling, but they are GENERAL ACCIDENT TICKETS.

SEA VOYAGE POLICIES

Are issued, covering the risks of travel to European and other Ports. Rates varying with the season, and the voyage to be taken. Information can be had of the Company or its Agents.

The Company has a PAID UP CASH CAPITAL OF \$250,000. One hundred thousand dollars deposited with W. BARKES, Esq., Superintendent of the Insurance Department of the State of New York, and the remainder securely invested in Stocks in the hands of the Company.

INDUCEMENTS.

The rates of Premium are very low.

The Plan is so simple that any one can comprehend all its workings.

No MEDICAL EXAMINATION is required, and those who have been rejected by Life Companies, in consequence of hereditary or other diseases, can effect Insurance in this Company at a very small cost.

No better or more satisfactory insurance can be made of so small a sum.

For Policies or further information, apply to

A. D. SMITH & CO.,

General Agents for the Pacific Coast,
Office, N. W. corner Montgomery and Sacramento streets,
San Francisco. 17v13

Trades and Manufactures.

WM. BARTLING. BERRY KIMBALL.
BARTLING & KIMBALL,
BOOK BINDERS,
 Paper Rulers and Blank Book Manufacturers.
 505 Clay street, (southwest cor. Sansome),
 15v12-3m SAN FRANCISCO.

JOHN DANIEL,
 (SUCCESSOR TO O. COLE)
MARBLE WORKS,
 No. 421 Pine st. bet. Montgomery and Kearny, San Francisco
 Mantels, Monuments, Tombs, Plombers' Slabs
 Etc., On hand and Manufactured to order.
 Goods shipped to all parts of the State. Orders re-
 spectfully solicited. 5v8-3m

NATHANIEL GRAY,
 General Furnishing Undertaker,
 641 Sacramento St., corner of Webb, San Francisco.

Baratow's Metallic Burial Caskets and Cases,
 111

THEODORE KALLENBERG,
 Maker of Models for Inventors.
 MACHINES, MATHEMATICAL, OPTICAL AND PHIL-
 SOPHICAL Instruments, Scales, Weights, etc. Steel
 Stamps, Dies and Die Sinking, Engraving, Stamp. Repair-
 ing of machinery promptly attended to.
 No. 418 Market street, San Francisco. n7-1f

Palmer's Patent
ARTIFICIAL LEG,
 Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
 629 Washington Street, San Francisco, Cal. 10v8-1m

HUCKS & LAMBERT,
 SOLE MANUFACTURERS OF THE CELEBRATED
H. & L. AXLE GREASE,
 Natoma Street and North Reach,
 2v13-3m SAN FRANCISCO.

F. M. TRUWORTHY,
STENCIL PLATE CUTTER,
 —AND—
BRAND MANUFACTURER,
 No. 321 Front street, corner of Commercial,
 SAN FRANCISCO.

Names for Marking Linen, Brushes, Ink and Marking
 Pots for sale. 9v13-3m

LEATHER HOSE AND BELTING,
 ALL SIZES.
SUCTION HOSE MADE TO ORDER
 At short notice, by
M. M. COOK & SON,
 No. 801 Battery street,
 13v13-3m SAN FRANCISCO.

Empire Sewing Machine Company.
 Principal Office, 616 Broadway, New York.
 GREAT IMPROVEMENT IN SEWING MACHINES.
 Empire Shuttle, Crank Motion Sewing Machine. It is
 thus rendered noiseless in action. Its motion being all pos-
 itive, it is not liable to get out of order. It is the best Fam-
 ily Machine. Notice is called to our new and improved
 Manufacturing Machine, for Tailors and Boot and Shoe
 Fitters. Agents wanted, to whom a liberal discount will
 be given. No consignments made.
EMPIRE SEWING MACHINE COMPANY.
 7v13-5w

LEAD PIPE,
SHEET LEAD,
DROP AND BUCK SHOT
MINNIE BALLS, BAR LEAD, ETC.,

Are now manufactured at the
SAN FRANCISCO AND PACIFIC
Lead Pipe and Shot Works,
 Corner Howard and First streets,
 SAN FRANCISCO.

Every article made at the above Works is WARRANTED
 PERFECT, and made of pure, soft, refined LEAD. Orders
 can be sent direct to the Factory, or to the subscribers.
THOS. H. SELBY & CO.,
 18v13-3m 116 and 118 California street.

VOLUME TWELFTH.—The Mining and Scientific Press
 with its last issue, commenced its twelfth volume. Since
 Dewey & Co. have "held the ribbons" its gain has been
 rapid toward a perfect journal. Its appearance evidences
 its prosperity, but doubtless, like some of the rest of us,
 it can stand increased encouragement. Let such be given,
 and, our word for it, volume thirteen will acknowledge
 receipt.—Golden Era.

SUBSCRIBERS who do not receive the MINING AND
 Scientific Press in due time, are requested to inform the
 publishers.

Professional Cards.

WILLIAM P. BLAKE,
MINING ENGINEER,
 Will make Surveys and Examinations of Mines, or give
 advice regarding their working, the erection of Ma-
 chinery, etc.
 Office at Union Iron Works, corner of First and Mission
 sts., or Lock Box 2,077 Post Office, San Francisco.
 11v22-7

SHERMAN DAY,
Mining Engineer,
 No. 57 Montgomery Block, San Francisco,
 Will examine, survey and report upon mines, and consult
 and advise concerning investments in mining property, or
 the machinery management and expenditures of mines.
 2v4

FREDERICK MANSELL,
Mechanical & Architectural Draughtsman,
 No. 422 California street, corner of Leidsdorff.
 Drawings of Models made for parties applying for pa-
 ents at Washington or London. mar23-tf

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
 COURT COMMISSIONER, appointed by the Fourth District
 Court, COMMISSIONER OF DEEDS for Nevada
 and Massachusetts.
 Court Block, San Francisco.
 Entrances opposite City Hall, Merchant street, and 636
 14v11f Clay street.

DR. H. AUSTIN,
DENTIST,
 No. 634 Washington Street,
 Between Montgomery and Kearny Streets
 [OVER SAN FRANCISCO BATHS]
 SAN FRANCISCO. 20v10-4y

DR. D. R. BECKFORD,
OCULIST,
 Office of Dr. Beckford's "Golden Eye Water,"
 16v12-3m NO. 719 CLAY STREET.

AUGUST KUNAST,
Stock Broker.
 Member of the
San Francisco Stock and Exchange Board,
 Buys and Sells Stocks, Bonds, Etc.
 Office, No. 540 Washington Street, San Francisco. 2v10

GEORGE H. BAKER,
Lithographer & Engraver,
 No. 522 Montgomery St., San Francisco.
 MINING STOCK CERTIFICATES LITHOGRAPHED
 IN MOST ARTISTIC STYLE. CALL AND
 EXAMINE SPECIMENS.
 10v8-tf

PHOTOGRAPHS
 MADE BY
MESSRS. CHALMERS & WOLFE,
 611 Clay street, San Francisco.
 Are the best made in the city. An examination of their
 specimens before going elsewhere, will prove the truth of
 the above assertion. Prices the lowest adopted by the
 Association of Artists. Remember the place, 611 Clay
 street. 11v13-2m

Pacific Mining Agency.
ALMARIN B. PAUL,
 N. E. cor. California and Kearny sts., up stairs,
 14v13 1m SAN FRANCISCO.

Pacific Mail Steamship Co's
THROUGH LINE TO NEW YORK,
 Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11
 o'clock A. M. of the following dates, for
 PANAMA, connecting via Panama Railroad, with one of
 the Company's splendid steamers from ASPINWALL for
 NEW YORK.
 On the 10th, 18th and 30th of each month that has
 30 days.
 On the 10th, 19th and 30th of each month that has
 31 days.
 When the 10th, 19th and 30th fall on Sunday, they will
 leave on Saturday preceding; when the 18th falls on Sun-
 day, they will leave on Monday following.
 Steamer leaving San Francisco on the 10th touches at
 Mazatlan. All touch at Acapulco.
 Departures of 18th or 19th connect with French Trans-
 Atlantic Co.'s steamer for St. Nazaire, and English steamer
 for Southampton.
 Departure of 10th connects with English steamer for
 Southampton, and P. R. R. Co.'s steamer for Central
 America.
 These steamers of the 30th connect with English steamer for
 unimo, the port of the new mines.
 The following Steamships will be dispatched on dates as
 given below:
 November 10th—CONSTITUTION, Capt. E. S. Farnsworth
 Connecting with ARIZONA, Capt. Maury.
 November 19th—GOLDEN AGE, Capt. W. F. Lapidge
 Connecting with HENRY CHAUNCEY, Capt. Gray.
 November 30th—GOLDEN CITY, Capt. Jas. T. Watkins
 Connecting with OCEAN QUEEN, Capt. Howes.
 Cabin passengers berthed through. Baggage checked
 through—100 pounds allowed each adult.
 An experienced Surgeon on board. Medicine and attend-
 ance free.
 These steamers will positively sail at 11 o'clock. Passen-
 gers are requested to have their baggage on board before 10
 o'clock.
 Through Tickets for Liverpool by the Inman Line can
 be obtained at office P. M. S. Co., San Francisco.
 For Merchandise and Freight apply to Messrs. WELLS,
 FARGO & CO.

The splendid steamship COLORADO will be dis-
 patched for CHINA ON TUESDAY, January 1, 1887.
 For passage and all other information, apply at the Pacific
 Mail Steamship Co's office, corner of Sacramento and
 Leidsdorff streets.
OLIVER ELDRIDGE, Agent.

Illegal Supplemental Advertising.—It
 would be well for Mining Companies, whose advertise-
 ments are repeatedly appearing in the Supplements of
 daily papers, to inquire into the legality of that class of
 advertising.

THE MINING AND SCIENTIFIC PRESS, published by Dewey
 & Co., San Francisco, should be in the hands of every
 miner. It gives every week information that is indispen-
 sable to the proper prosecution of mining. Every miner
 can avail himself of the latest improvements by subscrib-
 ing for it.—[Havilah Courier, Oct. 13.]

City College Laboratories,

Southeast Cor. Stockton and Geary sts.

Practical and Analytical Chemistry
and Metallurgy.

THOMAS PRICE,
Professor of Chemistry,
 (Formerly of the Normal College, Swansea.)

Will give PRACTICAL INSTRUCTIONS IN QUALI-
 tative and Quantitative Analysis and Assaying. The
 course qualifies students for the application of Chemistry
 to METALLURGY, MANUFACTURING ARTS, and MINING
 PURPOSES.

PHARMACEUTICAL and TECHNICAL CHEMISTRY,
 such as is required by Medical and Pharmaceutical Stu-
 dents, will be taught to such students as may require it.
Course of General Chemistry.

Evening Lectures will be delivered every Tuesday, at
 half-past seven o'clock, P. M., in the Philosophical Hall of
 the College, without extra charge to the students in the In-
 stitution.
 On and after the 14th of February, the Laboratories will
 be open every day, except Sundays, from 8 A. M. to 6 P. M.
 For further particulars, address

REV. P. V. VELDER,
 Principal of the City College.
 Or at 406 California Street.
 6v12eowtf

OLNEY & CO., Auctioneers,
 418 Montgomery street, San Francisco.

Administrators' Sale of Real Estate.

NOTICE IS HEREBY GIVEN, THAT IN PURSUANCE
 of an order of the Probate Court of the City and
 County of San Francisco, in the State of California, made
 on the fifth day of November, A. D. 1886, in the matter of
 the estate of ELIZA ANN DOUGLAS, deceased, the under-
 signed, the Administrator of said estate, will sell at public
 auction, to the highest bidder, for cash, in one parcel, and
 subject to confirmation by said Probate Court, on MON-
 DAY, the third day of December, A. D. 1886, at 12 o'clock
 P. M., at the auction rooms of Olney & Co., No. 418 Montgomery
 street, in the City and County of San Francisco, all the
 right, title, interest and estate, of the said intestate at the
 time of her death, and all the right, title and interest that
 the said estate has, by operation of law or otherwise, acquired
 after her death, in and to that of the said intestate at the
 time of her death, in and to all that certain lot, piece, or
 parcel of land, situate, lying, and being in the said City and
 County of San Francisco, State of California, and bounded
 and described as follows, to wit:
 Commencing at a point in the southerly line of Broad-
 way street, distant one hundred and fourteen feet six
 inches easterly from the southeasterly corner of Broadway
 and Powell streets, thence southerly along said line of
 Broadway street and parallel with Powell street seventy-
 seven feet six inches; thence at right angles westerly nine-
 teen feet six inches; thence at right angles southerly and
 parallel with Powell street nineteen feet four inches; thence
 at right angles easterly three feet six inches; thence at
 right angles southerly and parallel with Powell street forty
 feet eight inches; thence at right angles easterly thirty-
 nine feet six inches; thence at right angles northerly
 and parallel with Powell street one hundred and thirty-
 seven feet six inches to the southerly line of Broad-
 way street; thence westerly along said line of Broad-
 way street twenty-three feet six inches to the point of
 beginning.
 Terms and conditions of sale: Cash—ten percent of the
 purchase money to be paid to the auctioneer on the day of
 sale; balance on confirmation of sale by said Probate
 Court; deed at expense of purchaser.
 SAMUEL S. MURFEY,
 Administrator of the Estate of Eliza Ann Douglas, deceased.
 San Francisco, November 10th, 1886. 19v13

Baldness! Baldness!!
 CAN BE PREVENTED, BY USING

Mayhew's Balsamic Hair Stimulant!

THIS REPARATION HAS BEEN USED AND RECOM-
 mended by some of the most prominent members of the
 medical profession of this city.

For the removal of DANDRUFF, SCURF, for preventing
 the Hair from falling out, and for producing a new growth,
 IT IS WITHOUT A RIVAL.

For particulars and references, see circulars accompany-
 ing each bottle. Prepared by

W. E. MAYHEW, Druggist,
 N. W. Corner Fourth and Howard streets San Francisco.

He gives his personal attention to the preparation of
 Physicians' prescriptions.
 Has, constantly on hand a choice assortment of
 French, English and American Toilet Articles. 16v13-6w

GOLD AND COPPER MINES!

Quartz Leads and Gravel Claims!
 In various localities. For sale by
B. W. MUDGE,
 16v13-6w 528 Clay street, San Francisco.

DR. O. DUNNING,
 Respectfully informs the public that he treats ALL DIS-
 EASES the human system is afflicted with, and
 can be found at his office,
Rooms Nos. 13 and 14 Government House
 Corner Washington and Sansome streets,
 18v13-6m SAN FRANCISCO, CAL.

Just Published.

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IN-
 PORTANT LECTURES ON FUNCTIONS AND DISORDERS of
 the Nervous System and Reproductive Organs, to be had by
 addressing and inclosing twenty-five cents, postage stamps,
 to Secretary PACIFIC MUSEUM OF ANATOMY, Mont-
 gomery street, San Francisco. 18v13-7

Book Printing should be considered and treated
 as one of the higher branches of the "Art of Arts," and
 its execution entrusted only to experienced and intelligent
 workmen. Strict attention will be given to all orders for
 Book and Pamphlet Printing entrusted to the Mining and
 Scientific Press & Co. office.

Its correspondents are men of science and learning, and
 hail from all parts of the coast. It is published at San
 Francisco, at \$5 per annum, or \$5 for six months. Address
 Dewey & Co., publishers of MINING PRESS, San Francisco
 [Nye County News.]

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new
 laws relating to mining and corporations in Cali-
 fornia and Nevada, passed in 1865-6. Some of
 these laws are of the highest importance to parties
 interested in the matter of locating and holding
 claims, and prospecting mines, in these States.
 Copies sent by mail. Price, 25 cents.
 Address, DEWEY & CO., Patent Agents,
 San Francisco, May 1st, 1866.

New Mining Advertisements.

Ethan Allen Gold and Silver Mining Company.
 Location of Works, Austin, Lander County, Nevada.

Notice.—There are delinquent, upon the following de-
 scribed stock, on account of assessment levied on the fourth
 day of October, 1886, the several amounts set opposite the
 names of the respective shareholders, as follows:

Names.	No. Shares.	Amount.
I. N. Green	399	\$399 00
M. L. McDonald	85	25 00
J. M. McDonald	81	42 00
William McKenzie	67	43 50
J. M. Reynolds	168	84 00
Nathan Porter	120	60 00
Thomas B. Bishop	100	50 00
John Gray	103 1/2	84 50
A. C. Nichols	51	25 50
W. R. Satterlee	10	5 00
George F. Bliss	5	2 50
Joseph E. Eckley	8	4 00
Joseph White	20	10 00
Elkan Cohn	5	2 50
J. Preston Moore	28	14 00
John Taylor	12	6 00
R. O. Sturdivant	10	5 00
James Cameron	10	5 00
G. Forrest Walter	3	1 50
Henry Zeisler	1	50
Edmund Gould	1	50

[The certificates originally issued for the above stock, and
 for the whole capital stock of the Company, were, prior to
 the levying of said assessment, surrendered to the Com-
 pany, and the whole of said stock, and of the stock of the
 Company, transferred in trust to R. H. McDonald and re-
 issued to him by certificates, numbers 509 to 526, both in-
 clusive, for 100 shares each, and the same now stand in his
 names as aforesaid; and the stock above specified now de-
 linquent for said assessment, forms a part of said stock
 now standing in the name of said R. H. McDonald, as
 above stated.]

And in accordance with law, and an order of the Board
 of Trustees, made on the fourth day of October, 1886,
 so many shares of each parcel of said stock as may be
 necessary will be sold at public auction, by Messrs. Olney &
 Co., at No. 418 Montgomery street, San Francisco, Cal-
 ifornia, on Tuesday, the twenty-seventh day of November,
 1886, at the hour of 12 o'clock M. of said day, to pay said de-
 linquent assessment thereon, together with costs of advertis-
 ing and expenses of sale.

H. B. CONGDON, Secretary.
 Office, 620 Washington street, (Room 5) San Francisco,
 California. nov10

George Washington Gold and Silver Mining
 Company, Silver Mountain District, Alpine County, Cal—
 Assessment No. 15.

Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the sixth day of
 November, 1886, an assessment of two and one half dol-
 lars (\$2.50) per share was levied upon the capital stock of
 said Company, payable immediately, in United States gold
 and silver coin, to the Secretary, at the office of the Com-
 pany only.

Any stock upon which said assessment shall remain un-
 paid on the eighth day of December, 1886, shall be deemed
 delinquent, and will be duly advertised for sale at public
 auction, and unless payment shall be made before the day
 of sale, on Monday, the twenty-fourth day of December, 1886,
 to pay the delinquent assessment, together with costs of
 advertising and expenses of sale. By order of the Board
 of Trustees.

A. G. WOOD, Secretary.
 Office, 538 Montgomery street, San Francisco. nov10

La Blanca Gold and Silver Mining Company,
 District of Ures, State of Sonora, Mexico.

Notice.—There are delinquent, upon the following de-
 scribed stock, on account of assessment levied on the
 fourth day of October, 1886, the several amounts set op-
 posite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Blinhardt Wm.	183	50	\$75 00
Blinhardt Wm.	184	50	75 00
Blinhardt Wm.	185	50	75 00
Blinhardt Wm.	186	50	75 00
Blinhardt Wm.	187	50	75 00
Blinhardt Wm.	188	50	75 00
Blinhardt Wm.	189	50	75 00
Blinhardt Wm.	190	50	75 00
Blinhardt Wm.	191	50	75 00
Blinhardt Wm.	192	50	75 00
Blinhardt Wm.	193	50	75 00
Blinhardt Wm.	194	10	15 00
Blinhardt Wm.	195	10	15 00
Blinhardt Wm.	196	10	15 00
Brendel Charles	211	10	15 00
Brendel Charles	212	2	3 00
Brendel Charles	217	8	12 00
Barekhausen J.	471	5	7 50
Barekhausen J.	242	6	9 00
Barekhausen J.	243	2	3 00
Drossel Jes.	438	3	4 50
Drossel Jes.	444	2	3 00
Goemann J W.	24	5	7 50
Goldman J W.	348	1	1 50
Herrman J W.	50	10	15 00
Herrmann F.	220	5	7 50
Herrmann J F.	295	3	4 50
Herrmann J F.	297	3	4 50
Hass M L.	23	10	15 00
Hass M L.	297	2	3 00
Holm Henry.	385	6	9 00
Marks A C.	72	10	15 00
Marks A C.	73	10	15 00
Marks A C.	271	10	15 00
Marks A C.	367	8	12 00
Marks A C.	411	3	4 50
Nichelsen	418	10	15 00
Nagye Abraham	4	102	153 00
Queffelt C C.	454	5	7 50
Kittler W H.	410	6	9 00
Kittler W H.	415	21	30 00
Steinhach E.	461	7	10 50
Steinhach E.	462	6	9 00
Trenkle E.	466	6	9 00
Walzman M.	183	5	7 50
Walzman M.	360	5	7 50
Walzman M.	459	5	7 50
Walzman M.	482	5	7 50

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

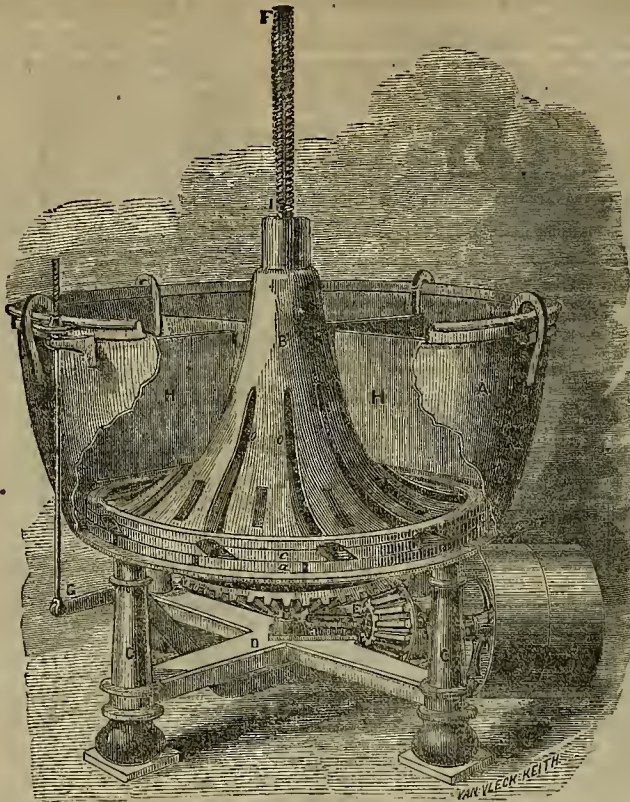
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

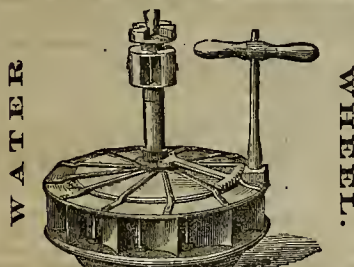
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
141 San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction wherever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to
KNAPP & GRANT,
—ALSO— San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can do more track work in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind.
For sale by
KNAPP & GRANT,
124 1/2 3rd St. San Francisco.

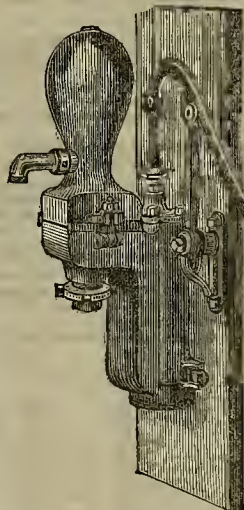
To Ditchmen, Millmen and Others Requiring
IRON PIPE.

M. R. ROSE, CORNER OF 9TH AND K STREETS, Sacramento City, has facilities unsurpassed on this coast for the manufacture of IRON PIPE of every description. He also has on hand a deep well FORCE PUMP, of his own invention and manufacture, well adapted for oil wells. His tools being portable, pipe can be manufactured on the ground.
1912

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

We receive, regularly as clock work, this exceedingly valuable and interesting journal.—[Napa Reporter.]

The Hansbrow Pumps



ARE WARRANTED THE

BEST PUMPS OFFERED.

All Sizes, for any Purpose,

FOR SALE BY

LOCKE & MONTAGUE,

112 and 114 Battery Street,

SAN FRANCISCO.
16v13-2m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulfurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,
416 Market street, San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
San Francisco.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

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V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery

OF ALL KINDS.

Especial attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. P. Low;	Coffey & Risdon, San Fran
C. T. Meader, Stockton;	cisco;
Jacob Underhill & Co., San	Geo. K. Gluyas, Chief En-
Francisco;	gineer of Cal. S. Nav. Co.,
J. W. Stowe, Russell & Erwin	San Francisco.
Manufacturing Company;	
Office, No. 120 Front street, San Francisco.	4v12

FOR SALE!

QUARTZ AND MINING MACHINERY.

ONE GARDNER'S THUNDERBOLT CRUSHER, LARGEST size and best quality; is entirely new, with all extras— with a large lot of other Quartz Machinery, including Engines, Boilers, etc.
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Notice to Miners,

Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE M. Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.
M. PRAG,
8v13-ly Stovo Storo, No. 125 Clay street, below Davis.

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. One to three-ply Hose made. All orders punctually attended to.

S. HOWARD,
326 Davis street, San Francisco.

Rubber Belting,
WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by
THOMAS H. SELEY & CO.,
Nos. 116 and 118 California street
22v12 3m

Economy in Advertising.—The MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than one half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

Grand Mining Undertaking in Butte County.

The following article, which we quote entire from the Marysville Appeal of Oct. 24th, shows that our people are still alive to the fact that there is yet other mining to be done than that of quartz. The extensive enterprise here described, the famous Blue Gravel mine, and the mills now being erected in Placer county for the working of cement, all suggest the probability that these deposits of an earlier period are yet comparatively unprospected; and inventors may yet find here a field for the exercise of their talent, in devising more complete apparatus for the working of mines of this description:

The most extensive mining operations in California lie north, near twelve miles distant from Oroville. Crossing the Feather river at Oroville and passing through Thompson's Flat there is to be found some of the richest surface mining in the State. But unfortunately there is so little fall that the mining in this locality is of the most primitive character, but still produces large quantities of the precious metal. Thence you proceed northeast under the lower Table Mountain, crossing Morris Ravine, which divides the two Table Mountains. This ravine is several miles in extent, and has produced immense quantities of gold, and is still worked with great success when water is to had—the present supplies being collected from the surrounding mountains during the winter season. There is one Eastern company now operating on this ravine, from whence you ascend to the upper bench or upper Table Mountain, at the northern end of which is what is known as

CHEROKEE FLAT.

This bench or table land, extending from the Sacramento Valley on the west through the foothills to the Cherokee bench, and for several miles north of Table Mountain, and on the eastern side of the mountain to the gorge that forms the head of Morris Ravine, a distance south of about seven miles, is one continuous range of gold-bearing gravel, which extends through the Table Mountain and is very rich in fine gold. To take a pan and wash this gravel reminds one of the good old days of '49; and it is not in selected spots only that these prospects are found, but in many places where one, who would consider himself an expert, would not think of prospecting. The surface of the country is quite barren, being dotted with an occasional nut pine and small scrubby oak; but sufficient for the miner's use, except lumber, which is of easy access. The mines at this place have been worked by rocker and sluice since the earliest days of California mining, and yet no impression has been made, from the fact that the only water to be had was during the rains, which is collected into reservoirs; and then thirty days work with water is considered an extra good year, and for as much as two years in succession there has been sufficient water for general mining. The mining ground everywhere in the vicinity has been located, the most of it for years, the locators waiting for the good time to come, when some enterprising company would introduce water. The most prominent mining company having the most available location, is the

CHEROKEE COMPANY—TEN SHARES.

The grounds of this company consist of 180 claims, consolidated together, of 100 feet square to the claim. This is the oldest company in the district, which has from time to time purchased adjoining claims, with the results of the joint labor of the members, until it has become one of the most valuable mines in the State. They are now working (during the rainy season) a bank of some forty feet in depth, composed of light quartz gravel, which is very rich, paying last winter as much as \$1,000 per day with a very primitive mode of working. They only had water thirty days all the season. The same gravel, with the improved mode of working in use in parts of Yuba county, would certainly pay 50 per cent. more, not from the same quantity of gravel, but from the additional quantity washed. This bank of fifty feet now being worked might be considered only the surface; as years since, when they commenced, they started from the bed of the ravine, and followed up on that grade. From prospecting shafts sunk, it is ascertained that the next twenty feet is of a more decomposed gravel, and then the famous blue gravel and cement is found, which continues to the bed rock, which is thirty feet, making in all, if properly opened, a bank of 100 feet and more, of the richest gravel in the State. This gravel range extends under the Table and Sugar Loaf mountains, forming a ravine between them, known as the Sawmill ravine, at the mouth of which is located the Welch Tunnel and hydraulic claims. This tunnel is run 600 feet under the foot of Table Mountain, where is found very rich gravel, which, with the hydraulic works, with the very limited supply of water last winter, paid ex-

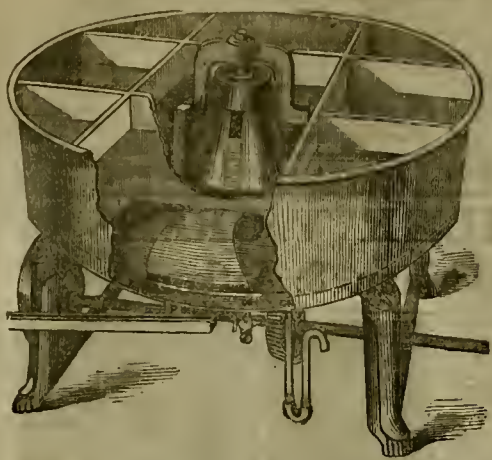
travagantly—even as well as the Cherokee, for the chance they had for working. There is another company running a tunnel under the Table Mountain, under the superintendence of Mr. Waldeyer. This tunnel has been run 1,700 feet, and is still progressing. The Eureka Company are also running a tunnel under the mountain. They are in some 900 feet. Some of your readers may think it strange that such a rich territory as spoken of should have remained so long without the introduction of water. In reply we might say, that for the past twelve years different parties have examined the route for a canal, which is, or has been considered favorable until you come within a few miles of Cherokee. There you find a depression of some 600 feet to cross. This has always deterred any parties from making the investment, and by many parties considered impracticable, until this spring, when Mr. R. H. Payson and Mr. A. F. Williams visited the locality, first thoroughly examining the extent and value of the mines, then the feasibility of introducing water from some of the branches of Feather river, when, after several surveys by Mr. Orlando Jennings, a line of canal was partially settled upon, provided the company to be formed could secure sufficient quantity of mining ground to satisfy the investment, without depending upon the sale of water to the miners to reimburse them for their investment. After considerable negotiations, they have secured some hundred and fifty acres of this gravel mining ground, in the immediate vicinity and adjoining the Cherokee Company's grounds, including the key and great outlet to the Sacramento Valley, with its full of near 1,000 feet, including also the most of Sawmill ravine, running on either side, under and into the Table and Sugar Loaf mountains, and extending to Morris ravine, near and on which they have secured nearly 200 acres more of the best of this gravel range. That portion of the company's ground lying clear of the Table and Sugar Loaf mountains is nearly one and a half miles in length, and three-eighths of a mile in width, through which the gravel varies from twenty to two hundred feet in depth, and as you work up and into either of the mountains increases to as much as 600 feet in depth, and not surpassed in value by any mine in the State. Messrs. Payson, Williams and Jennings, as surveyors and engineers, have devoted the entire summer in prospecting, investigating, selecting and consolidating this ground, and selecting the route for a canal.

There has been several routes tested—one from the West Branch of Feather river. This line will require as much as five miles of iron pipe, perhaps forty inches in diameter, to convey the quantity of water desirable. Another and more feasible route, is from the North Feather river. This line takes the waters from the river at a point known as Shore's Bar, distant by line of canal about twenty-five miles to the West Branch of Feather river. To convey the water across this stream, and land it sufficiently high on the Cherokee side, of the stream to be available for all of the mining ground, a depression of nearly 700 feet has to be overcome, requiring a span of about 600 feet, elevated nearly fifty feet above high water mark. It is not yet determined whether this span shall be a wire suspension or wood work. The water will be carried across this depression on suspension or trestle work, in an iron pipe thirty-eight or forty inches in diameter in the clear—considered sufficiently large to convey 1,200 inches, miners' measurement, with ten inches pressure at the gauge box. This pipe will be two and one quarter miles in length, extending from an elevation on the north side of the West Branch of Feather river down the mountain, then crossing the river on the suspension spoken of; thence up the mountain again on the south side, to an elevation sufficiently high to convey the water to any part of the Table and Sugar Loaf mountains and Sawmill and Morris ravine. The receiving end of the pipe can be placed so as to give as much as 300 feet head above the ejecting end.

This is the greatest mining enterprise ever undertaken in California, and will require as much as two years to complete the work. Most of the iron for the pipe will have to be procured in the East, and more than one half million of dollars will be required to build a tunnel, make and set the pipes and open the claims. This is independent of what may be paid for purchase of lands, and other mining facilities. Of the financial result of the operation, there can be no doubt. The extensive gravel ranges belonging to the company have been so thoroughly tested by experienced practical men, who have devoted several months in investigations and tests, that with the introduction of water and the adopting of the improved modes of working hydraulic diggings, the yield of gold from these mines will certainly triple that of any mines now in operation in the State—the famous Blue Gravel not excepted. To H. R. Payson, Louis McLane and A. F. Williams with Mr. Orlando Jennings, as Engineer and Surveyor, will the people of northern California be indebted for the inception and completion of this vast enterprise.

Knox's Improved Patent Amalgamator and Separator,

With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of,

14v13-pl2q

At the Golden State Iron Works, No. 19 First street, San Francisco.

CAUTION!

NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 27th, 1865, to Professor HENRY WURTZ, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY, OF NEW YORK, Assignees of letters patent granted to Prof. HENRY WURTZ, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand. The terms and conditions upon which rights to use the process are obtainable, can be had on application to WM. KLOSSON, Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 3v13

NEW YORK PRICES.

C. E. COLLINS, No. 603 Montgomery street, San Francisco. EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY. A large assortment of these Superior Watches, In Gold and Silver Cases, Constantly on hand, and sold at Factory prices. Also, ENGLISH AND SWISS WATCHES, Imported directly from the Manufacturers. The American Company are now making VERY FINE WATCHES FOR LADIES. A large assortment of Gold Chains and Jewelry. 25v10-6m

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THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for washing in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1-lb each, and in wooden boxes of 10-lb bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15v12i

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Fine Custom Made Clothing

Gents' Furnishing Goods

AT PRICES THAT DEFY COMPETITION. Our Stock of Clothing Consists of ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

A Large Assortment of Trunks, Valises, Carpet Bags, Blankets, Etc.,

AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,

Cor. of Washington and Sansome streets. 8v10

THIS CUT REPRESENTS AN AMALGAMATOR and Separator that has stood the test of more years' practical working in the gold mines of California, and for nearly the same time in the silver mines of Nevada, having been introduced into the first steam mills built in the latter Territory, since which time they have been successfully working against all competition.

The great advantages these Amalgamators have over any others, are—

1st. Much less Cost.

2d. They do not "flour" the mercury, and collect any that may have been "sickened" in the battery or grinders.

3d. The "sloshing" motion given to the pulp (by the revolution of the miller under the stationary frame) against the amalgamated copper plate that are fastened to the frame, and by this means catching the due gold and mercury that will not settle.

4th. The gate in the cover, through which the pulp is discharged, from the top, and where there is the least motion, almost precluding the possibility of any granulated mercury or fine gold escaping.

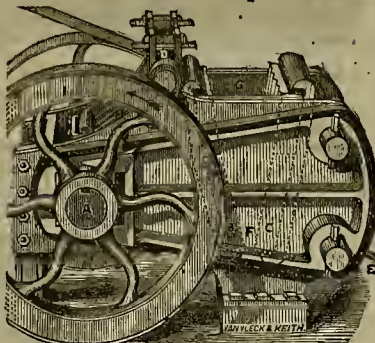
There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

ISRAEL W. KNOX, OR

W. A. PALMER, Inventors,

At the Golden State Iron Works, No. 19 First street, San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms: No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, so piece being larger than a walnut—price \$600 No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour. 850 No. 3—Or 18-inch Crusher, in a similar manner crush from seven to eight tons per hour. 1,200

EXPLANATION OF THE ABOVE ENGRAVING.

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient light to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary parts of the crusher. A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated. The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Maricopa county, by Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAVINNE RANCH, Tuolumne Co., Sept. 28, 1865.

JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1861. Further particulars will be afforded on application to the subscribers.

The following patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanation, of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE & RANLIEFF,

Express Building, 402 Montgomery street, San Francisco.

J. B. CONE, E. F. BOWMAN, Employment and Business Agency.

J. B. CONE & CO., Supply Male and Female Help, sell Farms, Mines and places of business, negotiate loans, and procure partners. Orders sent by mail or express will be promptly attended to. J. B. CONE & CO., No. 402 Montgomery street, 12v13i SAN FRANCISCO.

MOUNT DIABLO COAL.

CHEAP FUEL!

Cheaper than the East.

From the Independent Mine, at \$10 per ton.

GREENHOOD & NEUBAUER,

Nos. 207 and 209 Sansome street, between California 14v13-3m and Pine.

Ready for the Steamer "Colorado," On the 1st of January, 1867.

TO BE PUBLISHED ON THE DEPARTURE AND ARRIVAL of the Pacific Mail Company's steamer to and from China.

THE CALIFORNIA CHINA MAIL

—AND— FLYING DRAGON NEWSPAPER.

Printed both in the English and Chinese languages, for China, Japan, Australia, Borneo, Siam, Malacca, Singapore, Hindostan, etc., etc.

One of the immediate and most striking results of this mutual intercourse, will manifest itself in the fact that this country will be

Eight Days Ahead of Europe in its commercial intercourse with the countries of the East; and ultimately this line of communication will be the preferred road of the silk trade, etc., instead of the Suez route.

The price of the "California China Mail" will be Twenty-five Cents per number.—Annual Subscription, including Supplements, \$10 per Annum.

Advertisements, business notices, etc., in English only, will be charged fifteen cents a line; in CHINESE and ENGLISH, twenty-five cents per line; and one dollar extra for the translation of the first fifty characters; and one cent per character all exceeding fifty.

Copies of THE CHINA MAIL AND FLYING DRAGON may be had at all the offices of the Pacific Mail Steamship Company, in China and Japan. Office, 225 Clay street, San Francisco. 18v13i

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REPORT

OF THE—

COMMITTEE

—ON—

SEWING MACHINES!

California State Fair, 1866:

"TO THE PRESIDENT OF THE STATE AGRICULTURAL SOCIETY: Your Committee on Sewing Machines beg leave to report that we have examined the several Sewing Machines on exhibition, (the Grover and Baker, the Wheeler & Wilson, and the Florence,) and find that

FOR GENERAL FAMILY USE

—THE—

"FLORENCE"

—IS—

"THE BEST."

(Signed) J. N. ANDREWS, THOMAS C. McHALE, L. ELKUS.

If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco Office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.

SAMUEL HILL, General Agent, 111 Montgomery street, San Francisco. 17v13

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

RAISED EYE QUARTZ PICK.—We examined with some care quite an assortment and variety of picks at the workshop of Mr. John Wright, in this city, and wish to call attention particularly to the *raised eye quartz pick*, noticed in his advertisement. This pick is made of the very best material, is unsurpassed by any other in the market in point of strength, durability and efficiency, and is specially adapted to the wants of the quartz miner.

CLOTHING EMPORIUM.—Miners and others visiting the city will find it to their advantage to call at Quincy Hall, where every kind of suit can be had or made to order on the shortest notice. About forty hands are kept constantly employed in manufacturing. For further particulars see advertisement.

THE FIRST RAIN of the season came to us on Friday night of last week. The amount which fell in this city measured .25 inch. Several showers have since fallen, but not sufficient to warrant us to expect more than an ordinarily wet season.

PACIFIC HYGIENIC HOME WATER CURE, at Fountain Farm, near Oakland. Chartered and conducted according to the teachings of the Hydropathic College of New York, by the Pacific Hygienic Home Association (Incorporated), B. J. SMITH, M. D., Consulting Physician; R. S. MACHIN, M. D., Attending Physician; W. G. W. HANFORD, Manager; H. ANDREWS, Business Agent. Office, Baths and Lecture Hall, No. 627 Sacramento street, between Montgomery and Kearny streets. Free Lectures every Tuesday and Friday evenings. 16v13-1f

To Owners of Mineral Cabinets.

A miner in Nevada has a lot of choice Crystals, which he desires to dispose of at reasonable rates to parties who may desire to complete their display of minerals. Address the office of the "Mining and Scientific Press." 19v13-4fc

Job Printing Press for Sale—\$250.

A Largest Size (half medium) RUGGLES' BEST JOB PRESS, in fine order and good as new, can be had for \$250, cash—lowest price. Warranted. Apply to DEWEY & CO., Mining and Scientific Press Office.

Bell's Assay Office.

THE UNDERSIGNED, HAVING FORMED A PARTNERSHIP this day, would inform the former patrons and the public generally, that they will continue the ASSAY BUSINESS in all of its branches, at the old stand, No. 512 California street.

One door west of Montgomery, San Francisco, with the same employees, under the name of Rogers & Brown. MR. EDWARD WOLFE, for the last seven years Assayer for Mr. Bell, will have charge of the Assay Department.

The Melting Department will be under the charge of MR. HENRY J. FISHER, for ten years in the United States Mint in this city and Philadelphia, and for the past seven years with Mr. Bell.

We would inform Photographers that we are prepared to work their chloride of silver and ashes from their paper clippings.

We have, in connection with our Assay business a Mill, and are prepared to

WORK GOLD AND SILVER ORES,

In quantities from 25 to 500 pounds; also, Assayers' Sweeps.

GEORGE E. ROGERS.

H. W. BROWN.

October 13, 1866. 19v13 q1pnr

Metallurgy.

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—OF—

GOLD AND SILVER EXTRACTION.

THE MOST VALUABLE WORK ON THE SUBJECT ever published, and indispensable to Miners, Prospectors, Metallurgists, and Millmen. Price, in cloth, \$5; sheen, \$6. Sent by mail, postage paid, 50 cents extra. For sale by Booksellers generally.

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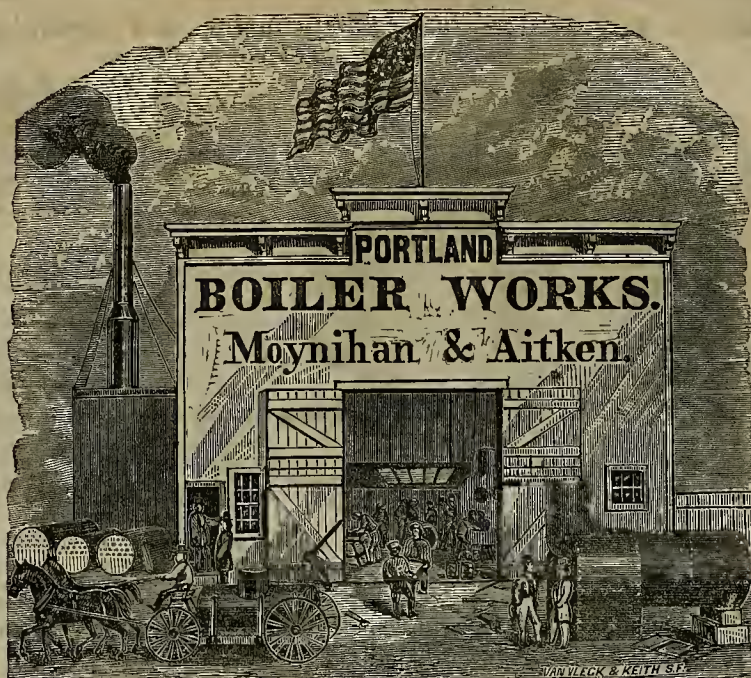
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Wedding and Visiting Cards printed with the utmost neatness; Notarial, Commissioner and Society Seals. 19v13-2q



Boiler Makers and Sheet Iron Workers.

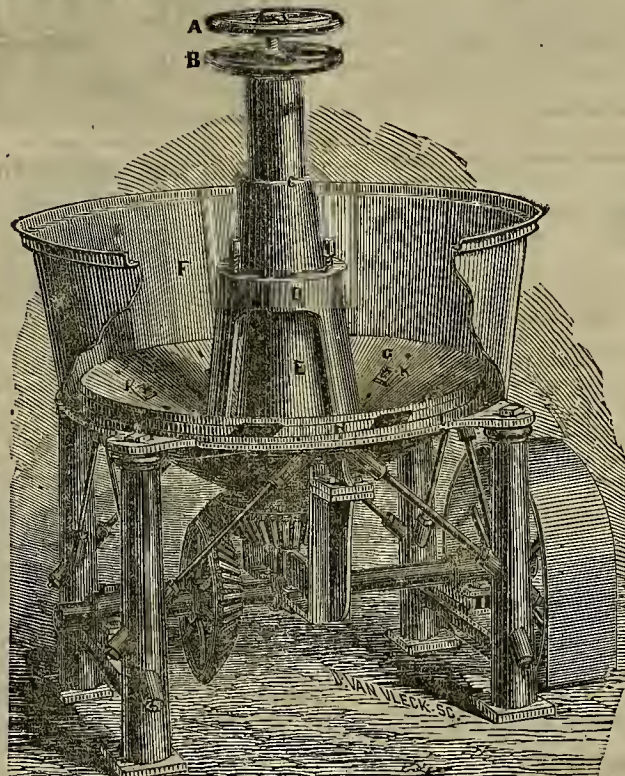
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SAN FRANCISCO, SATURDAY, NOVEMBER 17, 1866.

VOLUME XLII.
Number 20.

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NOTES OF TRAVEL.

NUMBER TWO.

The east and west sides of Lexington cañon present unmistakable evidences of dissimilarity in lithological character; and the cañon itself evidently owes its origin to a fissure of upheaval, the opposite sides of which represent respectively a metamorphic cretaceous deposit and an unaltered sandstone. These distinctive geological characteristics have in turn produced an equal dissimilarity in the topography and botanical productions of the opposite. The western, which consists of sandstone was but recently covered with a heavy forest of pines, firs and oaks, beneath which flourished a dense mass of undergrowth, sustained by a soil of almost unsurpassed fertility for a mountainous section, and well watered by numerous springs; the eastern slope presents the bleak and dreary aspect due to the scanty earth-covering of a metamorphosed rock, highly trappean in character, and is clothed, for the most part, with chaparral or "chamisal," with here and there a few stunted fruit trees.* The cañon forms the bed of a small stream known as the *Los Gatos* (Cat) creek. For quite a distance along its western slope, strong indications of petroleum occur at frequent intervals; while just across the creek we find numerous indications of copper.

A COPPER MINE.

A considerable amount of copper, according to report, has recently been taken out at a point on the east side of the creek, about half a mile distant from it, and some three-quarters of a mile from Thomas' saw mill. The discovery appears to have been kept quite secret; but after considerable inquiry and search, in company with Mr. Thomas, we succeeded in finding this locality. There was no one at the mine at the time of our visit, but we noticed that considerable prospecting had been done by running drifts under a large out-crop of decomposed mundic. So far as we could ascertain from a hasty observation, there was no indication of any vein, although there was quite a display of carbonates, and some very good looking sulphurets lying at the mouth of one of the openings. The prospect is such as might possibly warrant the expenditure of a small additional amount of money for further exploration. The chances of finding anything of value, however, we should think, are extremely doubtful; although for the sake of the neighborhood and the enterprising miner who has been so indefatigable in his efforts to discover a workable vein of copper in that cañon, we most heartily wish him the fullest success.

THE OIL WELLS.

In this cañon, which at one time presented such fair indications of success, seem now to be entirely abandoned. We visited several of them, and among others the McClellan well, from which considerable oil has been sent to this city. The derrick, steam engine, boring tools, tanks, etc., appear to have been left to destruction and decay. The well, we believe, was sunk to a depth of about 250 feet.

*The proper meaning of "chaparral" is a dense undergrowth of scrubby oaks; the undergrowth which usually covers the Coast Range of mountains is composed almost exclusively of "chamisal," the *Adenostoma fasciculata* of the botanists, and is more properly denominated "chamisal," than "chaparral."

To those who will take into intelligent consideration the vast amount of disturbance which must at some time have been exerted in this vicinity, and by which the stratification has been uplifted and left in an almost vertical position, it does not appear at all strange that no considerable quantity of oil should be found in this locality. Within less than half a mile southwesterly from this well, the geologist will recognize indications of plutonic action to an extent which has effected a complete metamorphism of the cretaceous formation which lies in immediate and almost vertical juxtaposition with the oil shales and sandstones. The strata here are simply saturated with oil, and their vertical position must render it extremely impossible that they should contain any considerable reservoirs of that liquid; or that it could be successfully obtained by percolation into well borings or other openings in the strata.

MINING IN THE COAST RANGE.

The upheaval of the Coast Range of mountains has taken place at too recent a period to admit of anything like aggregated and continuous metallic veins, such as are found upon the flanks of the Sierra, whose upheaval is referred to a much earlier date. Cinnabar may be, and is found there in large quantities, from the fact, most probably, that that mineral does not occur in continuous veins like gold, silver or copper; but always occurs in bunches or pockets, connected at irregular intervals and in diverse directions by threads or strings, and often entirely disconnected and unaccompanied with any continuous matrix whatever. Hence, we consider any prospecting in the Coast Range of mountains, throughout the central and southern portions of the State, for any other mineral than cinnabar or coal, as very little better than money thrown away. The aggregation of metalliferous veins, whether by sublimation, infiltration or otherwise, is the work of time, as counted by geological periods. The Sierra Nevadas have reached the age requisite for each aggregation. The Coast Range is still in its minority, so to speak. Should the consummation of all things be deferred for a sufficient length of time, the people of some future age may find in these mountains similar mineral developments and aggregations as are now being unfolded by the miners upon the slopes of Sierra Nevada. But before that event shall transpire, it is possible and even probable, that more than one growth of forest giants, whose period of germination, flourish and decay, shall be equal to that comprised in the existence of our present mammoth groves of sequoias, will have come and gone.

(To be continued.)

QUARTZ REDUCTION AND ASSAYING. — We would call the attention of our readers to the card of Messrs. Rodgers & Brown, successors to the late Mr. G. W. Bell, in the assaying business, at the old stand, 512 California street, in the rear of Wells, Fargo & Co. Messrs R. & B. are prepared to attend to any orders in their line, and to give practical working tests of gold and silver ores in lots from 25 to 500 pounds each. Their assaying and melting departments are in the hands of experienced and trustworthy persons, who have been long and favorably known in this community in their particular departments of assaying.

ANOTHER IMPROVEMENT.—The indomitable Hendy has made still another improvement to his concentrator. The old Prater machine, with which he started, has, in his hands, become so changed that Prater himself would scarcely be able to recognize his original invention, were he to examine the machine which Mr. Hendy now offers as his Patent Improved Concentrator and Separator. By this new improvement, Mr. Hendy dispenses entirely with the conical feeding distributor, which covers up and shuts out from the observation of the amalgamator the most critical portion of the work of the machine. In the present machine a hollow arm, with a T upon its outer extremity, is affixed to the hopper, which, with the arm, is made to revolve, like the hand of a watch when laid upon its back. The sand from the battery is made to pass into the hopper, as in the old machine, and from thence it is conveyed through the hollow arm to the periphery of the concentrator, where it enters into the T, and by which it is uniformly distributed, more so than it has been found practicable to be done by the conical disk heretofore used. A set of stirrers is also put in motion, which just scratch along, with a rotary motion, upon the top of the sand, for the purpose of preventing its liability to pack. By dispensing with the conical covering, the amalgamator is enabled to keep a constant watch upon the operation of the machine, and see that it is working right, and without packing. This improvement can be attached to the Hendy Concentrator now in use.

VEGETABLE GROWTH IN CALIFORNIA.—Among the peculiarities of this climate, is the fact that it permits the cabbage plant to grow from year to year until it becomes an evergreen tree. One consequence of this is the hardening of the wood of the stem or trunk. Mr. J. H. Benton, of Gold Run, Placer county, recently had a cann manufactured from a cabbage stalk, which he took to New York, where it attracted considerable attention. The editor of the *Druggists' Circular*, who has seen it, says it appears to be as sound and hard as hickory. It is finished with a simple coat of varnish, and is easily mistaken for some rare specimen of real wood. The writer has, himself, seen the same thing in Oakland. The castor bean, which in other countries is an annual, here becomes a large tree, with a fine growth of wood. We made mention of this novel cane, some months since, when it was exhibited in the office of the PRESS.

THE EXPECTED METEORIC DISPLAY didn't come off. Probably November, 1867, is the time, after all. Professor Olbers thinks so, inasmuch as the time which elapsed between the two previous showers was thirty-four years. The idea that the period was one-third of a century, is the natural consequence of our proneness to generalize without sufficient data. Several returns must occur before we can, with any degree of certainty, determine the period.

AN IRON CLAN FORT is about to be erected on the coast of Texas, near Galveston. It will mount twenty heavy Parrot guns, and will no doubt prove quite impregnable.

PRIVATE TELEGRAPHS.—We notice that several of our enterprising citizens whose business is such as to require in-town and out-of-town establishments, have connected the two with lines of telegraph for the purpose of more speedy and convenient intercommunication. We observe a wire stretched from the business house of T. H. Selby & Co., on California street, to their shot tower and lead pipe manufactory on First street; also another—the assay house of Kellogg & Hewson, on Montgomery street, to their gold and silver refinery on Brannan street. The St. Ignatius College, on Market street, we believe has also a direct telegraphic communication with its sister institution at Santa Clara; the connections, as we have understood, is by branch wires at either end connecting with one of the main public lines between this city and San Jose. The San Jose Railroad Company, also, has a private line of telegraph stretched along its line of road, connecting the depot in this city with that in San Jose, and all intermediate stations, by which the starting of trains and their junction, or any accident on the road, may be readily announced at any station on the line.

If we are not mistaken, the first enterprise of this kind in California, was got up some two or three years since by Mr. Ott, the well known assayer of Nevada City, for connecting his assay office in that city with his residence. Private telegraphs of the above description are quite common in the Atlantic and European cities, and long experience has proven them to be of great convenience and practical utility.

THE NEXT GREAT EXHIBITION, after the Paris exhibition of 1867, will be held in 1870, at Vienna, the capital of Austria. The manufacturing institutions of Austria have been so severely injured by the late war, that the participation of that country in the Paris exhibition has become very doubtful. The most busy manufacturing provinces of the empire, Bohemia and Moravia, have been literally ravaged by the Prussian occupation. A large number of objects intended for the exhibition at Paris, have been carried off by the Prussians; and again, the exactions and the contributions of all kinds that were levied, have been such as to place it beyond the power of the manufacturers to make those fresh sacrifices which would be required to maintain their credit in the general competition of 1867. Rather than present themselves in a position of lamentable inferiority, the Austrian manufacturers prefer to abstain from appearing at the Paris Exhibition, and to reserve their powers for the great exhibition which will be conducted under their own auspices, at Vienna, in 1870.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

A Sea of Fire.

The whole western slope of the North American Continent, particularly that portion near the Pacific Ocean, must, at no remote period, have been the scene of an intense volcanic activity, of which we have unmistakable evidence in the upheaval of the Coast Range of mountains—the elevation of the Sierra Nevada, with its summit studded by volcanic cones, and its westerly slope marked with ancient river beds and valleys, filled for hundreds of miles with volcanic ashes, pumice, scoria and basaltic lavas. The usual phenomena accompanying violent and extensive volcanic outbursts were probably not wanting at that period. The earth's surface undulating like a troubled sea; deep fissures and chasms opened in the solid rocks, through which thermal springs and evolutions of sulphuric and mephitic vapors, electric matter and inflammable gases, were constantly emitted; mountains rent in twain; rivers turned from their courses, seeking new channels; lakes dried up or swallowed by yawning abysses opened to receive them; new lakes formed; the whole configuration of the country changed; the shores of the Pacific removed some sixty miles westerly; its placid waters maddened and tossed by violent earthquakes, receding, surging and foaming in mountain waves, striving to surmount the new barrier and regain its lost ground and familiar shores; torrents of water and mud, pouring down from the mountain sides from excessive rains and sudden melting of immense glaciers and mountains of snow, inundating the country; a war of the elements—Fire vs. Water; unearthly, terrific and appalling sounds; dense clouds of ashes and volcanic dust obscuring the heavens; red, lurid and unearthly lights seen emitted from inflammable gases, and at intervals spasmodic volcanic eruptions, lighting up the whole country with a light so vivid and intense, that the sun would have paled were it visible; huge masses of molten rocks, hundreds of tons in weight, thrown high in the heavens, their surfaces contracting on meeting the cooler atmospheric air, and exploding with deafening reports, scattering their thousands of fragments of bright, glowing masses of fire in every direction—a pyrotechnical display shaming man's puny efforts; molten lava-streams rolling down the mountain sides with irresistible force, cutting down extensive forests of mammoth trees with less effort than the farmer exerts in removing his grasses, and melting down hills in its onward and downward flow. Under all this superficial disturbance and commotion lay its counterpart—the irresistible and invisible power that produced the effect.

ONE VAST SEA OF MOLTEN LAVA,

Contracting and expanding under the immense pressure of the earth's crust, submerged and tossed about by the expansive forces of its highly heated and elastic gases, struggling to escape from their rocky embrace. This wreck of matter and crush of worlds must have produced an effect indescribable; and one that Milton, with all his vivid and descriptive powers, would have made but a feeble attempt to portray.

That this terrible convulsion must have been preceded by premonitory symptoms, affording time for animals to escape from the mountain ranges, there can be no doubt, as the ancient river channels are almost entirely destitute of animal remains big up in the Sierras. That animals existed there, and inhabited the densely wooded forests with which the mountains were covered, we have abundant proof. The fossilized remains of the timber of those early forests are found in the lava-covered channels.

To what is now known as the foot-hills—then the sea coast—these animals undoubtedly rushed, in terrified, frantic and countless herds, seeking the cooler atmosphere of the sea, but to meet a frightful and horrible death, from which there was no escape. They were then overtaken and engulfed by streams of molten

lava or floods of mud and water, or destroyed by mephitic vapors and poisonous gases, that probably extended over the entire continent, and accounts for the sweeping destruction of whole races of men that have once inhabited, not only the North but the South American Continent as well, of which we have no traditional or historic account. Their ruined towns, fortified cities, pyramids and extensive aqueducts, prove them to have reached a high state of civilization—silent monuments of their previous existence.

In the Lake Superior copper mines masses of metallic copper are found detached, and the tools that were used by the workmen, of copper and stone, lying by their sides, but no traces or remains of the miners' existence. In the Western States, pyramids and mounds and ruins of ancient cities are found; in Mexico, ruined towns and walled cities, covering large areas, of which the aborigines have no tradition; in South America, abundant proof of the former existence of a race much superior and farther advanced in the arts and sciences than any of which we have recorded, and of which tradition is silent.

The writer once visited a ruined, walled city in the interior of Peru, South America, covering an area much larger than the city of New York; its ruined walls and labyrinth of streets, its public edifices and household utensils, denoted a high state of civilization; and that its inhabitants perished by a sudden and violent death is proved beyond peradventure. An immense field of many acres in extent, adjacent to the city, is covered with their remains—skeletons of men, women and children lying in groups, pairs and singly—here a male and female lying side by side—there a mother and her child. Some of the male skeletons are of giant proportions. That this was no Golgotha, is proven by places devoted to that purpose, within the city limits, filled by small raised mounds. Should it be proven that this terrible and sweeping havoc of destruction spread over this continent at a time contemporaneous with the scenes described, it would account for many unexplained phenomena. That we do not find authenticated evidence of the remains of human species on this continent, does not prove that man had not made his appearance here. That the fauna preceding this destructive outburst was dissimilar to that which succeeded it, does not militate against the previous existence of man, as recent investigations and discoveries have given good grounds for believing that man existed on this continent at least as late a period as the post-Pliocene. See Whitney's Geological, volume 1, pages 251 and 252.

VIADJOR.

A GOON SUGGESTION.—The Calaveras *Chronicle* proposes to the citizens of Mokelumne Hill to give each week, as they can afford, so much money, for the purpose of developing some one mine in the neighborhood. There are one hundred men here, says the *Chronicle*, who could easily average one dollar each a week, which would be sufficient to keep two shifts constantly at work until a mine was either proved valuable or worthless. This amount should be donated to the owners of the mine, to be used economically in the prosecution of the work, in case it proved of no value; but if it turned out good, then after the necessary machinery was erected, and the claim paid a dividend, it could be restored to those who subscribed the fund. We have begged for capital for years, continues the *Chronicle*, we have prospected as long, and yet we have neither capital or developed mines in the county. We must now go to work in earnest, and show the world what riches we have in the bowels of the earth, and we know of no better way than the manner we have suggested above. One valuable quartz mine would make the fortune of the county; without one we shall soon be hopelessly in debt. We think the people in several other mining sections would do well to act on this hint.

THE LINCOLN HOUSE, at Portland, is said to be one of the largest and most popular hotels in Oregon, and to be conducted on the most liberal principles.

PROCESS OF ROASTING ORES, ETC.

Translated from the German of F. Plattner, for the Mining and Gas-Light Journal, New York.

BY J. H. TIEMANN, M. E.

NUMBER ONE.

INTRODUCTORY REMARKS.

The treatment at a high temperature of ores as they come from the mines, or of such as have been subjected to the process of concentration, as well as of such products as have been obtained metallurgically from sulphur or arsenical ores, which serves to prepare them for further metallurgical operations, is called Roasting. Roasting has for its object, by the action either of air alone or in combination with chlorine gas, chlor compounds, steam, etc., upon the ores, the production of such chemical changes as are necessary for the further working of the ores.

The old technical term of "Calcining" or "Burning," is also sometimes used for such preparation of the ores. The term "Calcining" is derived from the burning or heating of limestone, which, at a bright red heat, gives off its carbonic acid, for which purpose the admission of atmospheric air is not absolutely necessary. In former times, as it was not known that the oxygen of the air performed the principal part in roasting ores or mill products, for the purpose of expelling certain components, as sulphur and arsenic, there was no difference made in the roasting process with or without the admission of atmospheric air. This term was consequently used, not only for such ores, which consisted of metallic oxyds, in which the oxyd was chemically combined with water or carbonic acid, and from which they could be freed by the simple application of heat, as, for instance, many iron and zinc ores, but was also used for such ores as contained combustible compounds, and which, consequently, could only be prepared for further treatment by the admission of atmospheric air, at a high temperature. The term "Burning" was used more frequently to designate the roasting of such ores which, in the form of large or small lumps, were to be more or less freed from their combustible compounds, and where the "Burning" was repeated, atmospheric air being admitted, till the volatile or combustible compounds were removed as far as necessary, and the remaining components decomposed sufficiently for further treatment.

The objects of roasting are various, depending upon whether the substance, after it has been roasted, is to be treated by one or the other method; whether each remaining component is to undergo a certain change, or whether it be desired, during the roasting, to separate certain components in the form of gas, to be recovered by condensation. For many ores and mill products it is advantageous, and in many cases, absolutely necessary that, before roasting, they should be reduced to powder, if not already in that condition from previous treatment. For many other ores and mill products, on the contrary, it seems to be better that they should undergo roasting in lumps, of proper size, not only because in such cases there is economy in fuel, but because such ores after their roasting, provided the metal is not liable to be driven off in vapor, as, for instance, quicksilver, may be more profitably worked than when in the form of powder.

By roasting, the following objects are effected:

I. The oxydation of such metals as are combined with sulphur and arsenic, or in general such metals as are combined with combustible matter, for the purpose of either forming free oxyds, or oxyds in combination with an acid, and to drive off, in the form of vapor, the residuum of sulphur, arsenic, etc., either in combination with, or free from, oxygen; again, if the substance to be roasted is a compound of metal and oxygen, i. e., an oxyd, it is often desirable to combine it with more oxygen, to subject it to a higher oxydation. As these results can only be obtained by the free admission of atmospheric air during the time that the substance is at such a temperature that its components are disposed to unite with oxygen, such roasting is termed an "Oxydizing Roasting."

II. The decomposition and changing, as far as possible, to free oxyds, the sulphur and arsenical metal oxyds formed in the oxydizing roasting of many finely pulverized substances. As, in many cases, it is disadvantageous to effect this by increasing the heat, or even impossible by the aid of heat alone, finely pulverized coal, or some substance rich in carbon and hydrogen, is added, the admission of air being for a time prevented, which causes a reduction of the sulphuric to sulphurous acid and of the arsenic acid to a sub-oxyd of arsenic and metallic arsenic—that is, a decomposition of the sulphuric and arsenic acid metal oxyds, and the removal of the resulting volatile compounds. During the volatilization of the reduced compounds,

carbonic acid and carbonic oxyd gas is formed, leaving the metallic oxyds behind in a free state—many of them, however, less highly oxydized. Such roasting is termed a "Reducing Roasting." If now atmospheric air be admitted, the remaining carbon burns to carbonic acid, and many of the metallic oxyds, which were reduced to a lower grade of oxydation, absorb oxygen again.

III. The combination of the metals with other bodies by the aid of proper admixtures. When in a roasting process, having for its object the oxydizing and decomposition of sulphur and arsenic metals, certain substances are added, as, for instance, the addition of salt, and, according to circumstances, sulphate of iron, to ores and mill products which are to be treated by amalgamation for the extraction of the silver, there ensues a chemical decomposition, new compounds are formed; sulphate of soda, together with different other compounds, the latter being more or less volatile. Such a roasting is termed a "Chloridizing Roasting."

IV. The complete evaporation of such parts of the ore as become volatile at a high temperature, as, namely, carbonic acid and the water of the hydrates, and, in many cases, the sulphuric acid of sulphates. Such roasting is termed "Evaporating Roasting." As, frequently, in the Oxydizing, Reducing and Chloridizing Roasting, it is at the same time the object to volatilize certain compounds of the substance roasted, so in the Evaporating Roasting, a distinction is made between (A) oxydizing Evaporating Roasting, (B) reducing Evaporating Roasting, (C) chloridizing Evaporating Roasting, and (D) the simple Evaporating Roasting.

Finally—

V. By roasting, many ores are rendered more friable, the heat destroying the cohesion of the particles among themselves, as many iron ores found in large masses, and tin ore. As this object can be attained by the simple application of heat alone, without the aid of atmospheric air, when the operation is not connected with any chemical decomposition of the accompanying sulphur and metals; such an operation is to be considered more in the light of a simple calcination, than of a roasting process.

If the object of roasting is to be fully accomplished, this can only be done by the fulfillment of those conditions under which it is in general possible, and to these conditions belong especially properly constructed furnaces and other arrangements.

Is it desired to fully oxydize the metals, and to remove at the same time the sulphur and arsenic which may be in combination with them, the pulverized ores and mill products must be roasted in a reverberatory furnace, having a horizontal hearth and a flat arch; the construction of the furnace may differ, but must always correspond with the end in view. The same applies to Reducing and Chloridizing Roasting.

If, however, it be desired merely to reduce such ores or mill products as are chiefly composed of sulphur metals, and not too rich in silver or lead, to a certain grade in their chemical composition, by roasting, this may be effected better, and with more economy in fuel, by roasting them in lumps of proper size. In this case, the roasting is carried on either in heaps, pits or kilns (rooms partly inclosed on the sides by walls), depending upon the character of the ore to be roasted, whether it oxydizes easily or with difficulty.

[To be Continued.]

A MUCH NEEDED INVENTION.—An invention is wanted in the chemical preparation of a thin tissue paper, so that by moistening it and using a hand press it will take an impression, and produce a copy of any written document, without any reference to how long the ink may have been dry on the original paper. To members of the legal fraternity, copyists and others, who are often required to make hurried copies of legal documents, such an invention would prove of immense advantage. Might not some "sensitive" paper of that kind be devised? It would of course be necessary that the chemical ingredients used should be of a character which would not injure the texture or materially impair the color of the documents to be copied. An eminent reporter of an Eastern paper has made the above suggestion, and we place it before our ingenious chemical friends for their consideration. In the present advanced state of chemical knowledge, it would seem as though such an object is not entirely beyond the range of possibility.

THE diminution of the magnetic dip has been going on in London for the last half century, with great regularity, at the rate of about three minutes annually.

Mechanical.

A CEMENT FOR IRON—REMARKABLE STATEMENT.

In our issue of January 20th we gave a lengthy detail of a remarkable invention by Col. N. C. Seezerelmei, a Hungarian gentleman residing in London, of a substance denominated by him "zopissa." The substance was used to saturate paper and fibrous substances, by which they were readily converted into pipes, slabs or boards, etc. It was stated that a board one inch in thickness, manufactured of this material, presented more resistance to a cannon ball than a 6-inch oaken plank. The material could be thus prepared in sheets 100 feet long, and were said to be almost or quite equal to iron for plating ships of war. Indeed, they might be affixed directly to the frame work of a vessel, and thus constitute its only covering. The material is light, water-proof, and non-absorbent. When made into pipes it is far more indestructible than iron itself; hence it was valuable for conveying water and gas. The water is not affected by these pipes. The material was just then coming into use in Europe, and the inventor promised many other new applications, as the result of further investigations. We have now just heard from him again, in the following remarkable statement, which comes to us through the medium of the *Iron Age*, of New York, evidently taken from some English paper, the name of which is not given:

A WONDERFUL CEMENT FOR IRON.

An exhibition of a most interesting character took place recently at the Albion Works, Battersea, England. The exhibition consisted of a number of practical illustrations, of the uses to which a certain description of cement is applied, having for its principal ingredient more or less of a particular gum or substance, called the zepipe—[It was called "zopissa" in the authority from which we quoted in January last.—*Ens.*]—which for some years past has been identified with the name of Colonel Seezerelmei. It appears to be a most protean substance, for it holds on with wonderful tenacity to timber, glass, brick, cement; and last, though by no means the least of its remarkable qualities, it will unite iron surfaces together as completely as though they were welded. The cement has the quality of being perfectly water and air tight. It can be conveniently used, and hardens with the greatest rapidity. About five minutes is the maximum of time required for it to harden thoroughly.

Of the value of such a material as this for engineering and building purposes, it is impossible to speak too highly. Our professional readers will at once perceive a variety of uses connected with railway and hydraulic works to which a material of this kind would be of the greatest possible value. Tunnels and bridges, docks and quay walls, could be constructed by its use in considerably less time and at greatly reduced cost; and with respect to sewers, an immense improvement would be effected in employing a material on which fluids produce no impression. Platform and railway stations could be provided of equal strength to the present and with less consumption of materials. The invention is one of that character with respect to which there can be no mistake, and any person who sees may judge for himself of the properties of the cement, and we shall be greatly mistaken if some of our large contractors do not very shortly seek to test the practical value of this remarkable "iron cement."

On previous occasions we have described the remarkable preservative qualities of the zepipe composition on stone and brick, and the extraordinary effects which the application of one part of the process has upon paper, converting it into a substance harder and more enduring than oak, and capable of being substituted for metals in many of the uses to which they are applied in the arts and manufactures. Following out the line of investigation into the chemical constituents of the substances which he employs, the gallant colonel has now succeeded in producing some results, which if they had not been shown under our inspection, we should have hesitated to believe possible. By combining various substances which may be readily obtained in large quantities, and at almost nominal prices, the ingenious inventor has made what he calls this "iron cement," and truly it is an iron cement. It is a cement which, easily applied, becomes in a few minutes as hard as iron, and, so far as we are aware, this is a quality which is not possessed by any other substance—that of complete and perfect cohesion to iron. At Battersea we saw two large plates of iron held together so firmly as to defy all attempts at

separating them. The plates had in several parts been fractured by the attempt to separate the two surfaces, but they still remained firm and immovable. Two plates of iron were cemented together in such a manner as that the lower one could have suspended to it the weight of several tons; the projecting corners of the lower plate to which the weights were attached were bent and curved, and the upper and lower plates had "buckled," but they still remained held together by the thin layer of iron cement as though they were but one plate. By the side of this a plate has been made up of alternate thin sheets of iron and planks of timber, and the wood and the iron adhered as firmly as in the case when iron surfaces only were exposed to the action of the cement. A third test consisted of thin sheets of iron with alternate layers of paper, which had been previously coated with another kind of composition of M. de Seezerelmei's. There the same wonderful cohesion existed. A sheet of glass was fixed to the edge of an iron bar by this extraordinary cement, and was as firmly held as the iron, or wood or prepared paper of the previous experiments with iron and wood. Many other equally curious and startling experiments were shown, and among these a novelty in the way of a house some forty feet in length, the sides, flooring and roofing of which were entirely of paper. The exhibition is certainly a most interesting and instructive one.

EFFECTS OF OIL IN A STEAM BOILER.—SINGULAR PHENOMENA.—In employing for the supply of locomotive water obtained from certain collieries, in Belgium, and especially those of Gilly and Charleroi, a singular phenomenon is observed as soon as the pressure of the steam attains six or seven atmospheres. The water mixes with the steam and escapes in the form of mist by the discharge-pipes; the feed-pumps become insufficient, and after a journey of some miles it sometimes becomes necessary to draw the fires. This effect is attributed to the presence of a matter which, under the influence of a temperature corresponding to five or six atmospheres, causes the liquid to rise. This matter arises, in the opinion of M. Stoelet, engineer, from coal dust held in suspension in the water, which dust comprises a certain proportion of oil. M. Stoelet sees no remedy but a careful system of filtration.

SOLDERING SOLUTION.—The following receipt is recommended for making a most excellent soldering fluid:

Two ounces muriatic acid, in which as much zinc is dissolved as it will hold, to which add half an ounce sal ammoniac. Clean the metal well and the solder will run and adhere to any part of the metal to which the solution is applied. It will also solder brass and steel together.

OREGON IRON WORKS.—The works of the Oregon Iron Manufacturing Company, consisting of a blast furnace with mining machinery, are located eight miles above Portland, on the Willamette river. They promise, when completed, which will be within a few weeks, to add greatly to the mineral product of the State. The iron ore is found both on the surface and in beds eight feet deep in abundant supply.

SPEED OF MECHANICAL FORCE.—If a continuous solid iron rail was laid along a track for a distance of 150 miles, no amount of force applied at one end could move the other in less than one minute and a quarter, the time required for mechanical force to travel in iron that distance.

SUPERHEATED STEAM, for the purpose of navigation and motive power, was first patented by Trevethick, in 1833.

A MONUMENT, costing \$18,000, has been erected over the grave of Wm. F. Harnden, the originator of the express business in the United States. It is a large and handsome structure, consisting of a covered platform, with a column of granite at each corner. The platform contains a granite safe of ordinary size, with a watch-dog reclining in front, and other suitable emblems. Mr. Harnden died in 1845.

TO FIX LABELS ON TIN.—Druggists and housekeepers are often annoyed by the labels falling from tin boxes and cans, when put on with ordinary paste. If they would use a solution of shellac in naphtha or alcohol, the annoyance would cease.

Scientific Miscellany.

Singular Molecular Changes.

Take the alloy known as Newton's fusible metal, composed of eight parts of bismuth, five of lead and three of tin; melt and pour it out upon a marble slab, and as soon as it becomes sufficiently solid and cool to handle, break it by a slight blow. The act of breaking it by a blow upon one part, will usually cause the whole to fly into quite a number of fragments, like glass. Immediately afterward the metal, which was easily handled before it was broken, becomes so hot as to burn the fingers, if taken up. When the evolution of heat has ceased, the alloy will be found entirely changed in character. From being extremely brittle, it will then require to be bent to and fro several times before it will break. The broken surfaces, which in the brittle state were smooth or conchoidal, with a tin white color, will now be found to present a fine granular or crystalline surface, of a dark color, with a dull, earthy aspect.

Similar phenomena accompany the melting and cooling of the fusible alloy of H. Rose, which is composed of two parts of bismuth, one of lead and one of tin. These facts were first observed and communicated to the public in 1842, by Robert Warrington, Esq., through the London Chemical Society. The fact of the evolution of heat from Newton's alloy, under other circumstances, had been previously alluded to by Berzelius, as follows: "If this alloy is plunged into cold water and quickly withdrawn and taken in the hand, it becomes sufficiently hot, after a few moments, to burn the fingers." We presume the plunging into cold water was done before the alloy was cooled to the ordinary temperature of the atmosphere.

These phenomena can only be accounted for by admitting a certain degree of mobility among the component particles, by which a second molecular arrangement takes place after the metal has solidified; this may possibly arise from their not having assumed, in the first cooling, that direction in which their cohesion is the strongest.

That a very marked and extraordinary alteration in the characters and properties of various metal arises entirely from this change in the position of their molecules, effected either by the communication or abstraction of heat after solidification, there can be no doubt. These changes, moreover, are applied to many very important purposes in the arts—such as the hardening and tempering of steel; the rolling of commercial zinc, and rendering that metal permanently malleable, the annealing of glass, cast iron, etc.—all of which processes undoubtedly depend upon the same principle as that involved in the curious phenomena above alluded to in the case of the bismuth alloys. A great variety of other uses, particularly in crystallization, might also be referred to.

CAUSE OF THE SMELL OF HYDROGEN GAS.—If hydrogen gas be made to pass into pure alcohol, it almost entirely loses its smell. Water added to the alcohol renders it milky; and on resting some hours, a volatile oil separates, which is the cause of the well known smell of hydrogen gas. This gas is obtained perfectly free from smell by putting into pure water an amalgam of potassium; but if there be added to the water an acid to accelerate the development of the gas, the latter will have the smell, which is observed during the solution of zinc in weak sulphuric acid.

LUTING FOR CHEMICAL APPARATUS.—The Druggists' Circular says that an excellent cement for luting chemical apparatus, and for other purposes, may be prepared by mixing paste made from starch with glycerine and gypsum. It will retain permanently its plasticity. By an addition of glycerine to glue (one-fourth part of the glycerine to one part of glue), the cracking and scaling-off will be prevented. This glycerine glue possesses also the property of exsiccating to remove the marks of lead pencil from paper.

SCIENCE IN THE DAIRY.—There are many dairymen who persist in thinking it a foolish whim, that the milk last drawn from the udder of a cow contains more cream than that first obtained. Yet, careful analyses have fully proven the correctness of the assumption. Schubler says the milk last drawn contains three times as much cream as that first procured. Dr. Anderson, in "Dickerson's Practical Agriculture," asserts that he found, by actual analysis, in one instance, that the last cup of milk drawn from an udder contained sixteen times as much cream as the first cup. The separation of cream from the milk takes place, in part, in the udder of the cow, particularly if the cow is suffered to stand at rest for some time previous to milking.

The exercise required of a cow which is driven a considerable distance, just before being milked, causes an increased play of her respiratory organs. The excess of oxygen thus respired unites with a portion of the butter, of which the cream is largely composed, and consumes it. The same is the case when a cow is barraged or in any way seriously annoyed, just previous to being milked. It should be a great care of all dairy farmers, to keep their cows as free as possible from every kind of annoyance, and thus prevent them from inhaling an excess of oxygen.

The animal heat evolved in the consumption of an excess of oxygen, more than is sufficient to act properly upon the blood, besides destroying the cream, also decreases the volume of milk, and elevates the temperature of the same to such an extent that acetous fermentation is induced which cannot be arrested even after the milk is taken from the cow; hence the milk is diminished in richness, and speedily becomes sour. For the above reasons, stalled cows, as a general thing, give richer milk than those suffered to run in the fields. For the same reason morning's milk is richer than night's milk. The quietness of night is favorable to the formation and preservation of cream. Repeated analyses have proven all the above facts. There is more philosophy in the dairy business than most people are aware of.

There are so many changes which are constantly occurring to the dairyman that cause variations in the value of his milk, even when the conditions of feeding are the same, as to render a chemical knowledge, or at least ready access to chemical experiments in this direction of the most economic and practical importance. It is true that the animal body is not a mere chemical laboratory, in which the chemist may operate as he pleases; for there is a power there—a vitality superior to his science; but by his intelligent concurrence with, and proper regard for that vitality, the changes and conditions which he desires can very generally be effected.

OCEAN TELEGRAPHY.—The contents of a lady's thimble would hardly be expected to constitute a very powerful instrument. They would scarcely have been thought capable of one of the most astonishing feats ever performed by science. The chairman, however, of the Atlantic Telegraph company informs us that this little instrument has actually achieved such a feat. By way of experiment, the engineer of the company joined the extremities of the two cables which now stretch across the Atlantic, thus forming an immense loop line of 3,700 miles. He then put some acid in a lady's silver thimble, with bits of zinc and copper, and by this simple agency he succeeded in passing signals through the whole length in little more than a second of time. A few years ago how incredible such a statement would have sounded! It seems, indeed, that the simplicity of the fact has taken even electricians by surprise. When a cable was first laid across the whole breadth of the Atlantic, it was anticipated that an unusually high power would be requisite to drive the current in sufficient force through such a length. In the first instance, therefore, they used a battery with fifty cells, and afterward employed 500 cells. But this extraordinary power only injured the cable, and the company are now working between Valentia and Heart's Content with a battery of only twenty cells. It is, in fact, remarkable how greatly the success of the present year has dissipated the supposed difficulties of distant or deep-sea telegraphy.—*London Times*, Oct. 1.

Mineral Resources of Sierra County.

As represented in Messrs. Crossman & Cochrane's Cabinet of Minerals, Downieville.

Believing that mining interests are always advanced by an exchange of facts and opinions by miners, and by comparison of samples of various mineral products in connection with the circumstances under which they are found, we give the following:

GROUP No. 1.—An area of about three miles, comprising quite a number of parallel veins, whose strikes are easterly and westerly. On the principal veins of this group there are several localities. The best representative location would be the

Sierra Buttes Mining Company.—Locality, Sierra Buttes. Three parallel veins—the Rose, Ariel and Cliff, each from eight to twenty feet. Veinstone, quartz—the first, rose-colored; the second, white laminated; the third is of a saccharoidal texture. Strike, easterly and westerly. Metals—auriferous, iron pyrites and a little galena. Formation, metamorphic slate.

GROUP No. 2.—An area of considerable extent. **Sierra Buttes Copper Mine.**—Locality, six miles east of Sierra Buttes. Veinstone, quartz. Power, twenty feet. Strike, easterly and westerly.

Metals—auriferous, yellow sulphuret copper, blue and green carbonate—black oxyd.

Assay from twenty-seven to fifty per cent. copper. Sulphuret of molybdenum, molybdic ochre. A dark bluish antimonial ore, containing by assay \$147 gold per ton. Formation, feldspathic granite.

GROUP No. 3.—Linear extent, considerable. **Primrose Gold and Silver Mines.**—Locality, Hog Cañon, twelve miles east from Downieville. Veinstone, quartz. Power, twenty feet—compact, crystallized, saccharoidal and often finely laminated. Strike, northerly and southerly.

Metals—argentiferous and auriferous galena. Zinc blende, copper, iron, antimony and arsenic—yields by assay from \$50 to \$400 silver; \$10 to \$100 in gold. Will work from fifteen to thirty dollars in free gold per ton.

Formation, metamorphic slate—a limestone belt in near proximity.

GROUP No. 4.—A small area. **Gold Valley Mine.**—Locality of Gold Valley, ten miles east of Downieville. Veinstone, quartz. Strike, easterly and westerly. Power, from four to twelve feet. Texture, compact.

Metals—massive iron pyrites, galena, blende, copper, and foliated tellurium. Concentrated sulphurets, which assay from \$50 to \$225 per ton.

Formation, highly metamorphosed slate.

GROUP No. 5.—Linear extent, inconsiderable. **Kanaka Mine.**—Locality, Kanaka Ravine, six miles east of Downieville. Veinstone, drusy quartz. Strike, northerly and southerly. Power, from eight to forty feet.

Metals—auriferous, galena, blende and copper, arsenical pyrites of iron—the latter not auriferous; arsenical manganese, which replaces other ores in depth, and is slightly auriferous.

Formation, feldspathic and silicious slates. A heavy belt of limestone lying to the eastward.

GROUP No. 6.—Extensive area.

Union Mine.—Locality, Wet Ravine, seven miles southerly from Downieville. Veinstone, laminated quartz. Power, from two to four feet.

Metals—auriferous iron pyrites and a little galena and blende, occasionally, very rich pockets of free gold.

Formation, greenstone trap. Both ores, gangue and country rock are identical with those of some of the Grass Valley mines.

GROUP No. 7.—Extensive area, and including or adjoining group No. 6.

Oak Flat.—Locality, Kanaka Creek, eight miles south of Downieville. Veinstone, quartz and fluor spar. Power, from two to five feet.

Metals—auriferous iron, and arsenical pyrites, galena and blende.

Formation, serpentine and talcose slate, resembling some of the Grass Valley ores.

GROUP No. 8.—Extent unknown, probably extensive.

Mammoth or Page Vein.—Locality, Sailor Ravine, two miles north of Downieville. Veinstone, drusy quartz. Power, from three to five feet. Strike, northerly and southerly.

Metals—arsenical pyrites (mispickel) very rich in gold.

Formation, serpentine, adjoining a highly metalliferous trapish slate.

GROUP No. 9.—Extent unknown.

Sailor Lodge.—Locality, Downieville. Veinstone, laminated quartz. Power, from eight to twelve inches.

Ores, galena and copper in small quantities. Gold, free and vein very rich.

Formation, between clay and serpentine.

GROUP No. 10.—Narrow belt, linear extent considerable.

Shug Canon.—Locality, one mile south of Downieville. Veinstone, quartz, drusy, laminated and saccharoidal. Strike, northerly and southerly.

Metals—free gold, a very rich class of iron pyrites, assaying from \$500 to \$1,800 per ton. Free gold by working test, from twenty-five to thirty dollars per ton.

GROUP No. 11.—Extensive beds, linear extent considerable.

San Saba Iron Mines.—Locality, head of Middle Fork of the South Yuba, about fourteen miles from Downieville.

Formation and metals, chloritic slate and carbonate of lime, in which occur immense beds of a very rich class of magnetic and spathic iron ores, assaying from sixty to seventy per cent.

As we previously stated, the above enumerated lodes are the representative mines of their respective groups. In addition, we will enumerate noticeable specimens from other veins included in the above groups. The cabinet being incomplete, as

yet, the county is not fairly represented, but as fast as classified and arranged we will make note of them:

Gypsum ("Selenite"), from Wolf Creek. Concretion of hydrated oxyd of iron, from Group No. 1. Very rich in gold from talcose slate. At Sierra Buttes, from a pocket, \$20,000 was extracted.

Gold-bearing quartz from Group No. 10. From Gold Bluff, laminated saccharoidal.

Gold-bearing quartz from Group No. 6. From American Hill mine, massive auriferous pyrites, and thin gold laminated on talc.

Gold-bearing quartz from Group No. 1. From Four Hill mine, rich auriferous, pyritous ore, galena, tellurium and blende. Texture, gangue, saccharoidal, and laminated.

Gold-bearing quartz from Group No. 6. From French mine, at Wolf Creek. Gold in thin laminae on dark talcose slate covering quartz.

Gold-bearing quartz from Mexican Mine, Group No. 10. Very rich massive pyritous ore—assay, \$800 per ton.

Gold-bearing quartz. From Von Humboldt mine—a recent discovery, not grouped—occurring in feldspathic granite resembling the ores of Group No. 2. The ores rich in free gold.

Gold-bearing quartz. From Chip's mine, Group No. 2. Free gold and copper pyrites.

Titanic iron. Containing nickel from South Fork.

Carbonized and opalized wood. Petrifications from bed of ancient river channel, known as the Blue Lead.

Fossils of a variety of fresh water shells. Petrified mushroom, very perfect, from bed of ancient river.

Petrified seeds, resembling the melon seed.

Concretions of a variety of forms from ancient river channel, near Brandy City. One in particular, which we noticed, appears to have been a lost jewel or emblem belonging to the ancient and honorable order of E. C. V. [Pre-Adamite, no doubt.] Argonite—a beautiful specimen.

Hornblende crystals, black prismatic in quartz. Olivine.

Asbestos.

Crystallized Quartz—a variety.

Manganese—black oxyd. Very pure.

Photographic rock. Petrifications and fossil ferns and mosses.

Crystals of magnesia.

Messrs. C. & C. propose devoting a portion of their cabinet to other mining counties, and have quite a collection of representative ores from Grass Valley, Summit City, etc., etc. They propose making exchanges with any party forming cabinets of minerals who have duplicates for exchange.

Downieville, California, November, 1866.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, November 16, 1866.

	Bid.	Asked.
United States 7 3/4 10ths	75 1/2	76 1/2
Gov. Legal Tender Notes	70 1/2	70 3/4
State Bonds, 7 1/2 cent.	81 1/2	82
San Francisco 10 1/2 cent.	100	105
San Francisco Bonds, 1855, 6 1/2 cent.	80	—
San Francisco Gas	64	65 1/2
San Francisco Bonds, 1858, 6 1/2 cent.	70 1/2	72
Sacramento City Bonds, 6 1/2 cent.	15	25
Sacramento County Bonds, 6 1/2 cent.	70	73 1/2
Marysville Bonds, 10 1/2 cent.	85	95
Stockton Bonds, 10 1/2 cent.	85	95
Yuba County Bonds, 10 1/2 cent.	80	85
Butte County Bonds, 10 1/2 cent.	70	80
California Navigation Co.	67 1/2	68
State Telegraph Stock	32	35
Sacramento Gas Co.	75	75
Spring Valley Water Co.	61 1/2	62

Sacramento Valley Railroad	—	—
Oregonian Railroad	55	60
Central Railroad Co.	—	65
North Beach and Mission	45	48

Alpha	\$	70
Bollinger, G. H.	16	17 1/2
Belcher	115	125
Confidence	55	65
Ophir	190	197
Gould & Curry	490	510
Empire M. & M. Co.	180	180
Empire	1600	1700
Chollar-Potosi	225	230
Hale & Norcross	1750	—
Yellow Jacket	920	950
Overman	27 1/2	29
Crown Point	87 1/2	94
Imperial	122	124

San Francisco Market Rates.

WHOLESALE PRICES.

Flour, extra, 100 lb.	6 00	6 70
Do Superfine	5 75	6 25
Corn Meal, 100 lb.	2 00	2 50
Wheat, 100 lb.	1 75	2 10
Oats, 100 lb.	1 45	1 55
Barley, 100 lb.	85	1 00
Beans, 100 lb.	2 50	4 00
Potatoes, 100 lb.	75	1 25
Hay, 100 lb.	7 00	14 00
Live Oak Wood, 100 cord	8 00	10 00
Beef, extra, dressed, 100 lb.	8 10	12 1/2
Sheep, on foot, 100 lb.	3 50	4 00
Hogs, on foot, 100 lb.	8 10	9
Hogs, dressed, 100 lb.	11 10	12
GROCERIES, ETC.		
Sugar, crushed, 100 lb.	13 10	—
Do China	10 10	—
Coffee, Costa Rica, 100 lb.	25 10	—
Do Rio	24 10	—
Tea, Japan, 100 lb.	80 10	—
Do Green	60 10	1 25
Hawaiian Rice, 100 lb.	9 10	—
China do.	6 1/2	7 1/2
Coal Oil, 100 gal.	62 1/2	65
Candles, 100 lb.	16 10	23 1/2
Ranch Butter, 100 lb.	35 10	62 1/2
Butter, 100 lb.	30 10	35
Cheese, California, 100 lb.	10 10	17
Eggs, 100 doz.	55 10	57 1/2
Lard, 100 lb.	16 10	17
Ham and Bacon, 100 lb.	18 10	20
Shoulders	12 1/2	15

Retail Prices.

Butter, California fresh 100 lb.	45 10	75
do pickled 100 lb.	40 10	50
do Oregon	35 10	—
do New York, 100 lb.	40 10	60
Cheese, 100 lb.	15 10	25
Honey, 100 lb.	80 10	40
Eggs, 100 doz.	60 10	65
Lard, 100 lb.	20 10	25
Hams and Bacon, 100 lb.	22 10	25
Cranberries, 100 gal.	15 10	100
Potatoes, 100 lb.	1 1/2	2
do Sweet 100 lb.	1 1/2	2
Tomatoes, 100 lb.	1 1/2	2
Onions, 100 lb.	3 10	5
Apples, No. 1, 100 lb.	3 10	5
Pears, table 100 lb.	8 10	10
Plums, dried, 100 lb.	20 10	22
Peaches, dried, 100 lb.	15 10	—
Oranges, 100 doz.	50 10	—
Lemons, 100 doz.	75 10	—
Chickens, apiece	87 10	1 12
Soap—Palm & C. O.	8 10	10
Cattle	14 10	15

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

ANSTED'S Gold Seekers Manual. 1 vol. 12mo. cloth.	1 75
ANTISELL—The Manufacture of Photogenic or Hydro-Carbon Oils, from Coal and other Bituminous substances, capable of supplying Burning Fluids. By Thomas Antsell, M. D. 1 vol. 8vo.	3 00
BUCKLAND (Rev. Wm.)—Geology and Mineralogy. 2 vols. 8vo. cloth.	10 00
DUFRENOY.—Mineralogie. 5 volumes, 6vo.	20 00
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Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

MINING SHAREHOLDERS' DIRECTORY

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location, Amount of Assessment; Date of Meeting, Day of Delinquent Sale; and Amount and Time of Payment of Dividends.			
NAME AND LOCATION.	AMT OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Arbitrios M. Co. \$1.50.		Dec 4—Dec 22*	
Adel n. G. M. Co. \$1.		Nov 24—Dec 15*	
Altaville C. M. Co. \$50.		Nov 6—Nov 22*	
Arizona C. M. Co.		Meeting Nov 29	
Belcher Co. \$33.		Nov 17—Dec 18	
Belcher M. Co. \$11.		Nov 17—Dec 18	
Bacon Mill & M. Co. \$10.		Dec 11—Dec 23	
Colorado S. & C. M. Co.		Annual Meeting Dec 24	
Chaparral Hill G. & S. M. Co. 15c.		Dec 10—Dec 31*	
Cibola M. Co. \$5.		Dec 1—Dec 17	
Cosala S. M. Co. Mex. \$1.		Oct 31—Nov 19*	
Crown Point, dividend, \$30 ft.		Payable Nov 9	
Confidence S. M. Co., Storey cu. Nev. div. 10 p. c.		Pay July 9	
Central M. Co.		Meeting Nov 29	
Del Norte Comstock Co.		Annual Meeting Dec 3*	
Daney G. & S. M. Co. 75c.		Nov 2—Dec 3	
Ethan Allen G. & S. M. Co. \$50.		Nov 6—Nov 27*	
Eureka, San Juan, dividend \$1.50 per sb.		Pay indly—Sept 3	
Enterprise G. & S. M. Co. \$7 1/2.		Nov 19—Dec 10	
Geo. Washington G. & S. M. Co. Alp. co. \$2.50.		Dec 8—Dec 24*	
Great Central M. Co. \$1.		Nov 15—Dec 3*	
Gould & Curry, dividend \$30 ft.		Payable June 8	
Great Central M. Co. \$1.		Nov 15—Dec 3*	
Golden Rule M. Co., dividend.		Payable Nov 16	
Humboldt G. & S. M. Co. Nev. \$2.		Nov 1—Nov 27*	
Hale & Norcross, dividend.		Payable Nov 15	
I. K. L. G. & S. M. Co. \$1.50.		Oct 30—Nov 26*	
Imperial G. & S. M. Co. dividend \$38 ft.		Payable Nov 15	
Independent C. M. Co. dividend.		Nov 8—Dec 6*	
London Q. M. Co. \$25.		Dec 12—Dec 27	
Jefferson G. & S. M. Co. Yuba co. Div. \$10 sh.		Payable Aug 23	
Keystone M. Co. Calaveras Co. \$5.		Oct 22—Nov 19*	
Kohler Bros. S. M. Co. \$1.		Dec 3—Dec 20	
Lady Bell C. M. Co. 10c.		Nov 23—Dec 10*	
La Pluma G. & S. M. Co. \$1.		Nov 8—Dec 6*	
London Q. M. Co. \$30.		Dec 3—Dec 20	
Mineral Mountain G. & S. M. Co. 10c.		Dec 10—Dec 31*	
Mount Tenabo S. M. Co.		Annual Meeting Nov 22*	
Noupareil G. & S. M. Co. \$1.		Nov 5—Nov 25*	
Nuestra Sra de Guadalupe S. M. Co. \$1.		Nov 3—Nov 27*	
North Star G. & S. M. Co. \$12.50.		Nov 12—Dec 10	
Napoleon C. M. Co. Nevada.		Nov 21—Dec 10	
North Star G. & S. M. Co. \$10.		Dec 10—Jan 5	
Ophir S. M. Co. Nevada. \$6.		Nov 19—Dec 10*	
Ophir of the Colorado S. M. Co.		Annual Meeting Nov 19*	
Overman S. M. Co. \$5.		Nov 17—Dec 4	
Providence G. & S. M. Co. \$2.		Nov 24—Dec 8*	
Patriotism and Dolores S. M. Co. Mex. \$1 1/2.		Nov 17—Dec 10	
Pacific Rolling Mill Co. \$1.		Nov 27—Dec 13	
Rope Gravel M. Co. \$1.		Nov 5—Nov 21	
Salamander G. & S. M. Co. 20c.		Nov 24—Dec 13*	
San Marcial S. M. Co. Mex. \$1.		Oct 19—Nov 21*	
Santa Cruz Petrol Oil Works Co. 30c.		Nov 6—Nov 27*	
Santa Nevada S. M. Co. \$2.50.		Nov 12—Nov 29	
Santiago M. Co. dividend.		Payable Oct 8	
Savage S. M. Co. dividend.		Payable Nov 9	
Sumner S. M. Co.		Dec 1—Jan 5	
Tuolumne M. G. & S. M. Co. \$1.		Dec 8—Dec 24	
Tellurium G. & S. M. Co. \$1.		Nov 15—Dec 3*	
Yellow Jacket S. M. Co., div. \$50 sh.		Payable Nov 15	

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, November 10.

72 shs Ophir at \$2 1/2 per foot, s. 3.
24 shs Ophir at \$2 1/4 per foot.
1 sh Savage at 1400 per foot.
1 sh Savage at 1400 per foot s. 3.
3 shs Savage at 1400 per foot, b. 30.
3 shs Yellow Jacket at 697 1/2 per foot, b. 30.
3 shs Yellow Jacket at 697 1/2 per foot, b. 30.
1 sh Yellow Jacket at 695 per foot, b. 10.
1 sh Yellow Jacket at 695 per foot, b. 10.
2 shs Yellow Jacket at 695 per foot, b. 30.
37 shs Chollar-Potosi at 190 per foot.
9 shs Chollar-Potosi at 173 1/2 per foot, s. 10.
2 shs Chollar-Potosi at 190 per foot, b. 10.
2 shs Chollar-Potosi at 190 per foot, b. 30.
20 shs Crown Point at 800 per foot.
4 shs Crown Point at 800 per foot s. 30.
4 shs Crown Point at 870 per foot, b. 30.
2 shs Belcher at 62 1/2 per foot s. 30.
85 shs Bullion at 13 1/2 per share.
5 shs Bullion at 17 per share, b. 3.
5 shs Bullion at 15 per share, b. 10.
10 shs Bullion at 14 1/2 per share, s. 3.
13 shs Imperial at 109 1/2 per share s. 3.
13 shs Imperial at 109 1/2 per share.
5 shs Imperial at 111 per share, b. 20.
5 shs Imperial at 112 1/2 per share, b. 30.
5 shs Overman at 17 per share, b. 30.
60 shs Overman at 16 1/2 per foot, s. 30.
10 shs Overman at 17 per share.
15 shs Overman at 16 per share, s. 15.
11 shs Empire M & N Co. at 112 1/2 per share.
5 shs Confidence at 65 per share.
2 shs Cal Nav Steam Nav Co at 68 per cent.
Amount of sales.....\$ 59,229 00

Monday, November 12.

21 shs Ophir at 80 1/2 per foot.
16 shs Chollar-Potosi at 170 1/2 per foot.
1 sh Chollar-Potosi at 170 per foot, b. 3.
5 shs Chollar-Potosi at 165 per foot.
7 shs Chollar-Potosi at 160 per foot, s. 30.
10 shs Chollar-Potosi at 160 per foot, b. 30.
12 shs Chollar-Potosi at 160 per foot.
1 sh Chollar-Potosi at 160 per foot, b. 3.
1 sh Chollar-Potosi at 160 per foot, b. 10.
3 shs Chollar-Potosi at 160 per foot.
5 shs Chollar-Potosi at 157 1/2 per foot, s. 30.
5 shs Chollar-Potosi at 165 per foot.
2 shs Chollar-Potosi at 167 1/2 per foot, s. 10.
5 shs Chollar-Potosi at 170 per foot, s. 10.
8 shs Yellow Jacket at 700 per foot.
2 shs Yellow Jacket at 705 1/2 per foot, b. 10.
1 sh Yellow Jacket at 705 per foot, b. 3.
1 sh Yellow Jacket at 715 per foot, b. 30.
1 sh Yellow Jacket at 705 per foot.
3 shs Yellow Jacket at 710 per foot, b. 3.
1 sh Yellow Jacket at 707 1/2 per foot.
3 shs Yellow Jacket at 710 per foot.
1 sh Savage at 1400 per foot, s. 30.
4 shs Imperial at 112 1/2 per share.
2 shs Imperial at 113 per share.
9 shs Imperial at 113 per share, s. 3.
20 shs Imperial at 115 per share, b. 30.
10 shs Imperial at 114 per share.
5 shs Imperial at 114 per share, s. 30.
7 shs Imperial at 115 per share.
15 shs Imperial at 116 1/2 per share, b. 30.
10 shs Imperial at 116 per share, b. 20.
22 shs Bullion at 13 1/2 per share.
5 shs Bullion at 14 per share.
5 shs Overman at 15 per share, b. 30.
15 shs Overman at 16 per share, b. 30.
25 shs Overman at 16 per share.
5 shs Overman at 16 per share, s. 3.
5 shs Overman at 15 1/2 per share, s. 10.
\$5,000 Legal Tender Notes at 71 1/2.
\$1,000 Legal Tender Notes at 70 1/2 s. 30.
\$5,000 Legal Tender Notes at 70 1/2.
\$7,500 Legal Tender Notes at 70 1/2.
\$5,000 Legal Tender Notes at 70 1/2, s. 5.
\$10,000 Legal Tender Notes at 70 1/2 s. 30.

AFTERNOON SESSION.

1 sh Yellow Jacket at 720 per foot.
4 shs Yellow Jacket at 710 per foot, s. 30.
1 sh Yellow Jacket at 715 per foot.
1 sh Yellow Jacket at 725 per foot, b. 30.
1 sh Yellow Jacket at 717 1/2 per foot.
16 shs Chollar-Potosi at 192 1/2 per foot.
1 sh Chollar-Potosi at 190 per foot, s. 3.
4 shs Chollar-Potosi at 190 per foot, s. 10.
7 shs Chollar-Potosi at 195 per foot, b. 30.
2 shs Chollar-Potosi at 187 1/2 per foot, s. 30.
3 shs Chollar-Potosi at 188 1/2 per foot, s. 30.
12 shs Ophir at 78 per foot, s. 3.
12 shs Ophir at 79 per foot.
21 shs Ophir at 77 1/2 per foot.
96 shs Ophir at 77 1/2 per foot.
60 shs Ophir at 72 1/2 per foot.
4 shs Crown Point at 800 per foot.
2 shs Savage at 1500 per foot.
60 shs Sierra Nevada at 3 1/2 per share.
30 shs Bullion at 14 1/4 per share.
10 shs Bullion at 14 1/2 per share.
5 shs Overman at 15 per share.
25 shs Overman at 15 1/2 per share.
10 shs Overman at 15 per share, b. 30.
5 shs Overman at 15 1/2 per share.
15 shs Imperial at 117 1/2 per share.
5 shs Imperial at 117 1/2 per share, s. 30.
5 shs Imperial at 120 per share, b. 30.
Amount of sales.....\$ 91,751 50

Tuesday, November 13.

216 shs Ophir at 75 1/2 per foot.
48 shs Ophir at 72 1/2 per foot, s. 30.
84 shs Ophir at 70 per foot, s. 30.
13 shs Belcher at 63 1/2 per foot.
60 shs Bullion at 14 per share.
88 shs Chollar-Potosi at 192 1/2 per foot.
5 shs Chollar-Potosi at 190 per foot, s. 30.
11 shs Chollar-Potosi at 197 1/2 per foot, b. 30.
33 shs Overman at 14 1/2 per share.
20 shs Overman at 12 1/2 per share, s. 10.
5 shs Overman at 13 1/2 per foot, b. 30.
4 shs Savage at 1570 per foot.
41 shs Imperial at 117 1/2 per share.
5 shs Imperial at 125 per share, b. 30.
2 shs Imperial at 134 1/2 per share, s. 30.
12 shs Ophir at 75 per foot, s. 30.
20 shs Yellow Jacket at 705 1/2 per foot.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, November 17th, 1866.

Since our last reference there has been rather more activity in the demand for money in certain quarters, but a steady accumulation for a month past in the vaults of the Banks has imparted more ease to the general market, and accommodations are now obtained without much difficulty at 1 1/2 to 1 3/4 per cent. per month. The buoyancy of the mining share market has attracted some attention this week, and if the recent advance in a number of stocks continues to be well maintained, this description of collateral will soon obtain more favor with capitalists and others. For a long time it has been exceedingly difficult to negotiate loans based upon mining shares, even at a very wide margin from current market values, but within the past few days some important loans have been effected upon these securities at comparatively low rates of interest.

In our issue of October 13th, we gave a tabular statement of the Bullion receipts for three months of eight companies working on the Comstock lode. To-day we present it in a thoroughly revised form with the addition of the Confidence and Ophir companies, and with the receipts of October appended:

NAME.	July.	August.	September.	October.	Total.
Yellow Jacket..	\$231,706 00	\$379,699 92	\$292,500 78	\$180,283 67	\$1,184,290 37
Savage.....	140,000 00	145,000 00	145,000 00	210,000 00	640,000 00
Hale & Norcross..	135,073 00	119,417 38	153,000 64	132,303 74	539,800 76
Gould & Curry..	125,000 00	131,395 23	117,821 35	114,321 61	488,538 29
Crown Point..	36,557 00	80,451 10	120,000 00	110,000 00	347,008 10
Imperial.....	65,408 10	75,840 52	78,450 87	98,380 00	318,089 55
Chollar-Potosi..	72,000 00	67,000 00	53,000 00	60,000 00	252,000 00
Confidence.....	40,398 74	20,096 58	37,059 56	41,563 72	139,118 60
Emp. M. & M. Co.	28,440 70	31,520 25	41,813 15	42,000 00	143,774 10
Ophir.....	19,582 60	27,684 50	20,681 23	22,580 24	90,538 62
Totals.....	\$939,904 26	\$1,090,735 54	\$1,060,070 66	\$1,031,501 04	\$4,122,211 40

The Mining Share Market continues to gather strength, and some leading stocks have been sold during the past week at greatly improved prices. The list of dividend-paying mines is increasing and a general improvement is noticeable; still there are claims that have latterly been a burden to stockholders, while some have not paid dividends for many months past, but the majority of this class are now reaching a degree of productiveness that pays expenses and provides the means of future developments. With scarce an exception the Washoe claims now in the market are doing very well, and many are challenging public favor with new evidences of value. In addition to the mining company dividends announced in our last week mention that of Crown Point, Hale & Norcross, and Imperial, making the total cash disbursements of this nature to stockholders for the month of October \$229,200.

Chollar-Potosi opened at \$185, receded to \$159, steadily advanced to \$202 1/2, and closed yesterday at \$225. We learn that favorable results have been obtained by this company in the first station drift of the new shaft. The cross-cut on this level is about 200 feet north of the turn-table, and the developments at a distance of 20 feet exhibit a deposit of fine ore about six feet in width. This is an entirely new body of ore, it appears, and by later information than the 11th inst. is said to be improving as work progresses. Average assays made from ore taken from all parts of the drift give a yield of \$107 and \$133 to the ton, while selected ores produced \$392 and \$900 to the ton. The 700-foot station in the new shaft, it is said, will soon be reached, which is 866 feet from the line on the Gould & Curry croppings. During the week ending the 11th inst., 553 1/2 tons of ore were sent to Custom mills.

Ophir was in more than usual demand the past week, selling at \$82 1/2 seller 3, dropping to \$71 and \$70 rallying to \$85 seller 30, and closing at \$190. This company is at present vigorously at work in stopping from the 7th level toward the Walsh shaft, and they are now about 60 feet east from that point. By this means they are endeavoring to reach the rich deposit of ore under the base metal discovered at that place in going down in the Walsh shaft, but which

had to be abandoned at the time on account of the presence of a large body of water. Assessment of \$72 per foot delinquent on the 19th.

Crown Point was dealt in to a very limited extent during the past week, selling at a recession from last quotations—\$880 and \$850, then dropped to \$800, closing at \$940, ex-dividend. Considerable ore, it is said, is still being taken from above the 300-foot level. In going north from the main drift on the 400-foot level the ore is said to have considerably improved. The middle incline was within about three feet, on the 10th inst., of the 400-foot level, and still in good ore. The mine produced 658 tons of ore during the week ending November 10th. This company paid a dividend of \$50 per foot on the 15th.

Savage ranged from \$1,450 to \$1,490 buyer 30, early in the week, then advanced to \$1,540, suddenly improved to \$1,710 and \$1,750 buyer 30, and closed yesterday at \$1,660. The yield of ore during the week ending November 10th, amounted to 1,469 tons, valued at \$65,659, and deducting the expenses of extraction and reduction, leaves an estimated balance of \$36,735; the average yield is \$14 70 per ton. This amount of ore was taken from the following points of the mine: 6th station, 826 tons; 7th station, 66 tons; upper level, 152 tons; and from the Curtis shaft 425 tons. The winze from the 6th to the 7th level, at a depth of 70 feet, continues in good ore, and the drift on the 7th to connect with it, it is said, also produces fine ore. From this fact the reasonable deduction is made that a large body of ore extends through the entire 100 feet intervening between the 6th and 7th levels. In the Curtis shaft the north drift is vigorously pushed forward in order to reach the old works as soon as possible. It passes through a variable quality of ore.

Gould & Curry realized \$400 per foot during the week, and at the close, sold at \$500. Nothing of importance concerning this company. We notice that Mr. David Bowie, formerly secretary at the company's reduction works in Virginia City, has assumed the secretaryship of the company in this city, made vacant by the resignation of Mr. J. M. Shotwell.

Yellow Jacket opened at \$690, then rapidly improved to \$720 and \$752.50, then sold at an advance of \$175—\$930, and closed at \$935—ex-dividend. We can gain no authentic information relative to the rapid appreciation of this stock. Since the first of this month no reports have reached the office in this city. It is rumored that rich developments have been made in the lower level from the south shaft.

Hale & Norcross remains in firm hands, and no sales transpired in the Board the past week. We quote the stock nominally at \$1,800 bid per foot. The ore delivered to the reduction mills, to the 11th inclusive, amounted to 1,230 tons, 65 per cent. of the assay value aggregating \$69,473. A dividend of \$100 per foot, was paid on the 15th, out of the earnings for October.

Imperial opened at \$109, gradually improved to \$120, then advanced to \$127, receded to \$120, and closed at \$122. This company paid a dividend of \$8 per share on the 15th inst. The first cleanup for November amounted to \$16,000 and upwards. The Imperial-Empire shaft had on the 10th attained a depth of 675 feet. The winter supply of ore, it is said, has been largely augmented since our last report.

Confidence improved from \$55 to \$58 1/2, and at the close \$60 is asked. We learn that the aggregate yield of this mine for the fiscal year ending October 31st, was \$285,680.68. Our readers are referred to the table appearing in this number regarding the yield of this company for the past four months.

Empire Mill sold at \$112.50, advanced to \$120, and \$130 was bid yesterday. ... Belcher jumped from \$62.50, seller 30, to 110, closing at \$130, buyer 30—assessment of \$33 per share delinquent to-day. ... Overman sold to a large extent within a range of \$13 1/2 to \$22, closing at \$31 1/2. ... Bullion opened at \$19, then sold at \$13.50, and closed yesterday at \$17.50.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$446,550.50.

1 sh Yellow Jacket at 705 per foot, s. 30.
2 shs Yellow Jacket at 715 per foot, b. 30.
1 sh Yellow Jacket at 705 per foot, s. 30.
1 sh Yellow Jacket at 695 per foot, s. 60.
2 shs Yellow Jacket at 700 per foot, s. 60.
1 sh Cal Steam Nav Co at 68 per cent.
\$5,000 Legal Tender Notes at 70 1/2.

AFTERNOON SESSION.

5 shs Bullion at 14 per share.
120 shs Ophir at 72 1/2 per foot.
96 shs Ophir at 68 1/2 per foot, s. 30.
24 shs Ophir at 71 per foot, b. 10.
1 sh Chollar-Potosi at 185 per foot.
5 shs Chollar-Potosi at 175 per foot.
30 shs Overman at 13 1/2 per share.
25 shs Overman at 13 1/2 per share, s. 10.
20 shs Overman at 14 1/2 per share, b. 30.
25 shs Overman at 14 1/2 per share, b. 30.
4 shs Crown Point at 750 per foot.
5 shs Savage at 1710 per foot, s. 30.
20 shs Yellow Jacket at 705 1/2 per foot, s. 30.
1 sh Yellow Jacket at 715 per foot, s. 30.
1 sh Yellow Jacket at 720 per foot, s. 30.
10 shs Imperial at 123 per share.
5 shs Imperial at 127 per share, b. 30.

Amount of sales.....\$96,514 50

Wednesday, November 14.

24 shs Daney at 1 per foot.
45 shs Bullion at 13 1/2 per share.
12 shs Confidence at 63 1/2 per share.
96 shs Ophir at 72 1/2 per foot.
31 shs Imperial at 121 1/2 per share.
25 shs Imperial at 125 1/2 per share, b. 30.
10 shs Imperial at 120 per share, s. 10.
4 shs Crown Point at 800 per foot.
15 shs Overman at 14 1/2 per share.
13 shs Savage at 1735 per foot.
5 shs Savage at 1730 per foot, s. 30.
52 shs Chollar-Potosi at 190 1/2 per foot.
20 shs Chollar-Potosi at 200 per foot.
21 shs Chollar-Potosi at 193 per foot.
5 shs Chollar-Potosi at 190 per foot, s. 30.
5 shs Chollar-Potosi at 202 1/2 per foot, b. 30.
15 shs Chollar-Potosi at 200 per foot, b. 30.
10 shs Chollar-Potosi at 192 1/2 per foot, b. 30.
12 shs Chollar-Potosi at 197 1/2 per foot, b. 30.
2 shs Yellow Jacket at 730 per foot.
3 shs Yellow Jacket at 730 per foot, s. 3.

4 shs Yellow Jacket at 735 per foot, s. 3.
2 shs Yellow Jacket at 740 per foot, b. 3.
4 shs Yellow Jacket at 740 per foot, s. 3.
4 shs Yellow Jacket at 740 per foot, s. 3.
3 shs Yellow Jacket at 745 per foot.
1 sh Yellow Jacket at 720 per foot, s. 60.
1 sh Yellow Jacket at 745 per foot, b. 30.
6 shs Yellow Jacket at 730 per foot, s. 30.
3 shs Yellow Jacket at 727 1/2 per foot.
2 shs Yellow Jacket at 725 per foot, s. 30.
1 sh Yellow Jacket at 720 per foot, s. 30.
3 shs Yellow Jacket at 725 per foot.

AFTERNOON SESSION.

100 shs Ophir at 80 per foot.
3 shs Ophir at 87 1/2 per foot.
48 shs Ophir at 87 1/2 per foot, b. 30.
12 shs Ophir at 80 per foot, s. 30.
12 shs Ophir at 80 per foot, s. 30.
12 shs Ophir at 80 per foot, s. 30.
12 shs Ophir at 80 per foot, s. 30.
12 shs Ophir at 80 per foot, s. 30.
2 shs Belcher at 65 per foot.
20 shs Imperial at 120 per share.
2 shs Imperial at 121 per share.
5 shs Imperial at 120 per share, s. 30.
10 shs Imperial at 122 per share, b. 30.
2 shs Savage at 1730 per foot.
2 shs Savage at 1730 per foot, s. 30.
1 sh Savage at 1720 per foot, s. 30.
1 sh Savage at 1720 per foot, b. 30.
100 shs Overman at 15 per share.
75 shs Overman at 17 per share.
10 shs Overman at 17 per share, b. 30.
6 shs Overman at 15 1/2 per share, s. 30.
25 shs Chollar-Potosi at 200 per foot.
27 shs Chollar-Potosi at 195 per foot.
15 shs Chollar-Potosi at 195 per foot, s. 30.
10 shs Chollar-Potosi at 202 1/2 per foot, b. 30.
5 shs Chollar-Potosi at 202 per foot, b. 20.
5 shs Yellow Jacket at 740 per foot.
1 sh Yellow Jacket at 745 per foot, b. 3.
1 sh Yellow Jacket at 745 per foot, b. 10.
1 sh Yellow Jacket at 745 per foot, s. 30.
1 sh Yellow Jacket at 747 1/2 per foot.
1 sh Yellow Jacket at 740 per foot, s. 30.
1 sh Yellow Jacket at 750 per foot, b. 30.
1 sh Yellow Jacket at 750 per foot, b. 30.
1 sh Yellow Jacket at 750 per foot, s. 30.

2 shs Yellow Jacket at 750 per foot, s. 3.
2 shs Yellow Jacket at 752 1/2 per foot.
1 sh Cal Steam Nav Co at 68 per cent.
\$1,600 Legal Tender Notes at 70 1/2.
Amount of sales.....\$153,776 50

Thursday, November 15.

24 shs Ophir at 85 per foot.
36 shs Ophir at 80 per foot.
60 shs Ophir at 87 1/2 per foot, b. 30.
24 shs Ophir at 84 per foot, s. 30.
25 shs Confidence at 60 1/2 per share.
5 shs Empire M & N Co. at 120 per share.
5 shs Empire M & N Co. at 120 per share.
1 sh Savage at 1700 per foot.
13 shs Yellow Jacket at 737 1/2 per foot.
1 sh Yellow Jacket at 760 per foot, s. 30.
2 shs Yellow Jacket at 770 per foot, s. 30.
3 shs Yellow Jacket at 800 per foot, s. 30.
1 sh Yellow Jacket at 810 per foot, s. 30.
1 sh Yellow Jacket at 812 1/2 per foot, s. 30.
1 sh Yellow Jacket at 820 per foot, b. 30.
100 shs Overman at 18 1/2 per share.
25 shs Overman at 17 1/2 per share.
25 shs Overman at 17 1/2 per foot.
5 shs Overman at 19 per share, b. 30.
10 shs Overman at 18 per share, b. 30.
5 shs Overman at 17 per share, s. 10.
40 shs Overman at 17 1/2 per share, b. 10.
21 shs Chollar-Potosi at 190 1/2 per foot.
15 shs Chollar-Potosi at 200 per foot, b. 30.
7 shs Chollar-Potosi at 195 per foot, b. 10.
5 shs Crown Point at 197 1/2 per share, b. 10.
15 shs Chollar-Potosi at 195 per foot, s. 30.
5 shs Imperial at 110 per share.
5 shs Imperial at 110 per share.
24 shs Imperial at 117 per share.
5 shs Imperial at 160 per share, b. 30.
5 shs Imperial at 117 1/2 per share, b. 30.

AFTERNOON SESSION.

12 shs Ophir at 95 per foot.
12 shs Ophir at 84 per foot, s. 30.
12 shs Ophir at 87 per share, s. 80.
12 shs Ophir at 94 per foot, s. 30.
2 shs Belcher at 100 per foot.
3 shs Belcher at 110 per foot.
6 shs Empire M & N Co. at 120 per share.
25 shs Chollar-Potosi at 195 1/2 per foot.
10 shs Imperial at 120 per share.

5 shs Imperial at 121 per share, s. 50.
5 shs Imperial at 121 per share, b. 30.
5 shs Crown Point at 925 per foot.
1 sh Savage at 1675 per foot.
4 shs Yellow Jacket at 850 per foot.
4 shs Yellow Jacket at 930 per foot.
1 sh Yellow Jacket at 915 per foot, s. 30.
10 shs Bullion at 13 1/2 per share.
100 shs Overman at 20 per share.
100 shs Overman at 22 per share.
70 shs Overman at 20 per share.
100 shs Overman at 20 1/2 per share.
100 shs Overman at 22 per share.
100 shs Overman at 23 1/2 per share.
Amount of sales.....\$ 83,657 00

Friday, November 16.

96 shs Ophir at 100 1/2 per foot.
12 shs Ophir at 172 per foot, s. 30.
110 shs Belcher at 13 1/2 per foot.
2 shs Belcher at 160 1/2 per foot.
1 sh Chollar-Potosi at 200 per foot, b

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the *Miner* of Nov. 10th: The Washington mill, at Davidson's, is only waiting the arrival of the balance of the machinery to get into action. . . . During the week about twenty-five tons of black ore has been hauled from the Morning Star mine to the Washington mill. Two teams—four and six horse—are now constantly engaged hauling, and the ore vein is of such size that two men can take it out faster than it is taken away. . . . The contractor running the Tarshish tunnel is still making good headway, and expects to see the end of his first work—300 feet—before the new year.

From the *Silver Mountain Bulletin* of Nov. 10th: We learn that the engine and pump for the American Company, located at Monitor, has arrived at Sacramento, and that in a few weeks the steam whistle will afford music for our neighborhood.

Calaveras County—

From the *San Andreas Register*, November 10th: The Monitor and Merrimack works are progressing finely. They are taking out large quantities of rich pay-dirt. Both companies have erected large and substantial buildings over their shaft.

El Dorado County—

The *Alta* has the following telegram: Placerville, Nov. 12th—11 A. M.—The Woodside quartz mine, located at Georgetown, struck the richest quartz on Saturday last, that was ever seen in California. It is estimated by competent judges that over \$50,000 were taken out on Saturday and Sunday. They are now hocking out nearly a pure solid mass of gold three feet in length. This is no humbug, as my informants have seen and handled the chunks, one alone weighing over one hundred pounds. The shaft is one hundred and ten feet deep where the gold was struck.

Kern County—

From the *Havilah Courier*, Nov. 10th: The Joe Walker mine has within the past ten days yielded to its fortunate owners twelve thousand dollars in gold. From the extent of this lode already developed, it is safe to estimate that it will yield at least one thousand dollars per day for years to come.

Nevada County—

From the *Grass Valley National*, November 9th: The American Company, at Manzanita Hill, San Juan, have a claim with a front of about five hundred feet; their sluices are from three-fourths of a mile to a mile in length, at the end of which are three pans, which grind up the coarse gravel. Connected with the end of the sluices is a strainer which saves the said gravel. This company have lately put up an 8-stamp mill. The Yuba Tunnel Company have their tunnel in about one thousand five hundred feet, and also a drift of two hundred feet. Their prospects are exceedingly flattering. From a handful of cement brought down from there the other day, some \$2 in coarse gold were taken.

The Diamond Ledge Company started up their works on Saturday last. They are down on the ledge about seventy-five feet, and they find the ledge to be about two feet in width. All the rock that has been taken out of the ledge so far has averaged about \$25 to the ton.

All the machinery for the 5-stamp mill for the Jim ledge is now on the ground, and will be shortly put up. This company have taken some fine rock out of their mine, and the ledge continues to look remarkably well.

From the *Union*: The claim of the Cincinnati Company contains 2,600 feet, and a drain tunnel has been run a distance of two hundred feet. The ledge has lately been leased to Uncle Billy Chollar, John Bennett and others, who are taking out quartz that it is thought will average \$40 a ton.

From the *Gazette*, Nov. 14th: We learn that gold in considerable quantities has been discovered in a conglomerate formation on the line of the railroad, at a point above Alta. While making a cut on the grade through the conglomerate, some of the rock that had been thrown out by blasts was pounded in a mortar, and on being washed down was found to contain free gold. This led to further prospecting which has pretty well established the fact that the rock will pay for working by mill process. The formation extends for a considerable distance on both sides of the railroad line, and numerous claims have been located. The railroad company will hold two hundred feet on each side of the road, but beyond that miners can locate claims. The discovery, it appears, was made some weeks ago. It is probable that the gold was originally contained in the quartz pebbles.

EXCELSIOR.—The Confidence, Pacific ledge, has been explored to a depth of 66 feet, and

shows an average width of nine feet, with foot and hanging walls well defined. Around the shaft there are between 800 and 1,000 tons of pay ore, which will be worked at the Winton mill. It is the intention of the company to erect over their shaft a substantial building, and continue at work, without cessation, through the winter.

Twenty-eight tons of rock from the Mohawk and Montreal were recently worked at the Metallurgical Works, and yielded, by the chlorination process, \$677.40. Twenty tons were from the bottom of the shaft on the second level, and fairly represents the average of the ore at a depth of 240 feet from the apex of the ledge. The remainder of the rock was taken from near the surface, and contained a large proportion of free gold.

The Gold Run Phoenix Company has erected a substantial house at the mouth of their tunnel. . . . The California Co. has a building 40 by 25 feet, over its shaft near the Knickerbocker ledge, and is well prepared to prosecute all needful work during the winter.

Placer County—

From the *Stars and Stripes* of Nov. 7th: The Union Mill Co. are now opening two ledges—the Elizabeth and Croton Hill. We were shown some of the rock from the Elizabeth at a depth of 35 feet, which shows well in sulphurets and free gold. The ledge is about ten inches wide, and works \$35 per ton. It is in slate casings, and easily got at. A shaft is now down 75 feet on the Croton Hill, and the lead is a paying one. The company propose erecting a new mill in a short time.

Work is being vigorously driven ahead on the suffrage lead. The shaft is down 50 feet, and the present contract will carry it down 20 feet further. The rock is full of sulphurets, and also shows free gold and galena.

Plumas County—

Greenville correspondence of the *Plumas National* of November 10th, has the following: The mines in this section as a general thing, are doing very well. Some few however, have suspended work for a season; amongst these are the Pennsylvania, Union, and Summit. Bidwell & Co. are taking some very fine rock out of the Caledonia. They are also crushing from the Bullion, and from the size of the lump of amalgam which I saw in their store the other day—one week's run—would say they had a good thing.

From the *Quincy Union* of November 3d: There is some excitement in regard to the new diggings in Bear Gulch, near Willow Valley.

. . . The Crescent Company are at work taking out some very rich rock from their claims in Indian Valley. It is expected they will make one of the largest clean-ups this week ever made by the company. In the tunnels where they are now at work, the walls and quartz actually sparkle with gold when the light is near. . . . Fred King, of Mohawk Valley, started below in the stage on Tuesday last. He took with him about 100 ounces of bullion, which was taken out of his four-stamp mill at Mohawk Valley at the last clean-up. . . . One day last week Reed & Co. took out \$1,000 from their claims near Cariboo, on the North Fork. It was all coarse gold, varying in weight from 25 cents to \$50. . . . Messrs. Light & Bro. have purchased Mr. Davis' interest in the old Ward quartz claims at Genesee Valley, and intend putting up a mill in a short time. . . . Capt. Hersey recently sold his mining claims at Hungarian Hill to Aschheim Bros.

Taylorville correspondence of the *Marysville Appeal* has these items: Callahan is about to erect an 8-stamp mill on his claim. The tunnel tapping the lead is 400 feet in length. . . . On the Pennsylvania is erected a sixteen-stamp mill. This mine is paying a handsome profit on the capital expended in its development. . . . The Indian Valley Company have a good 20-stamp mill near their mine which is on the same great lead. . . . The Union is also a mine of considerable value. The company have two mills in operation—one of eight and the other of ten stamps. . . . A small outlay of capital would, I firmly believe, make Indian Valley one of the greatest gold-producing regions in the State.

Sacramento County—

From the *Folsom Telegraph*: In the Fisher claim, and also in the Poudexter claim they have a large face of the cement exposed and from which they expect to realize richly. Each company is working about eight men. It will take years to work out these claims. While at Fisher's claims, he washed about a handful of cement on a shovel, and got about twenty-five cents worth of coarse, rusty gold. Bruce B. Lee has several men now engaged in sinking shafts on the flat within the San Juan Grant line.

Shasta County—

From the *Courier* of November 10th: The Potosi mill, four stamps, cleaned up a four days' run last week, with a result of \$567.76, in free gold. The sulphurets saved from the run will nearly equal in value the amount in free gold. Immediately above where they now

are, the original owners took from near the surface rock that averaged over \$800 per ton in free gold. The hopes of the company run high now because of this prospect.

Accounts from the South Fork district continue to be most flattering. The Big Central shaft is down 60 feet, and at that depth shows a ledge 10 feet, and pays \$40 per ton by working test. . . . The Chicago, at the bottom of the shaft, shows a ledge five feet wide, that prospects better at the bottom than at any intervening point. Other lodes are being opened, and the same astonishing richness is developed in all. . . . We are advised that Mr. Petty, a large claim-holder in the South Fork district, has sold his claim of 300 feet in the Original Crystal, for \$2,000, to a gentleman from Grass Valley, a practical miner and millman. The same gentleman has made other purchases and engagements in the district, which fully justifies the assertion that at least one practical man, with money, has confidence in the district. . . . The Washington mill cleaned up last week, after a month's run. Result: \$1,583.23 after melting. Only five stamps were used in this run. . . . A clean up of four days' run by the Mammoth mill shows a result of \$649.98—the rock averaging about \$18 per ton. The prospects in the ledge are very flattering.

Sierra County—

From the *Downville Messenger* of Nov. 10th: A friend from Eureka informs us that the hoys are getting ready to work as soon as the water comes, which will not be long if this weather continues. The Chaparral Hill Company are enabled to work several hours a day, and are making wages. . . . A ledge of gold bearing quartz was recently discovered about one mile above town, on the South Fork, which prospects finely. R. C. Sternberg traced the ledge across the river and took up an extension, the rock from which prospects equally well with the original.

In our notice of the Page ledge in our last issue, the types made us say that it yielded \$3 or \$4 per pan, which was a blunder. As much as \$80 to the pan has been taken out. We also understand that from \$150 to \$300 have been taken out in a day. . . . An extension of the Page was sold recently for several thousand dollars to parties in town. It prospects finely.

In the Mammoth, the work of exploration progresses slowly owing to the stormy weather. Evidences of an extensive and very rich vein are abundant. About two tons of a very high grade of ore is sacked ready for shipping to San Francisco.

The Ackley mine, discovered this week, is situated about one mile from town, opposite Clements' mill on the South Fork of the Yuba. Where the gold is freed a very rich prospect can be obtained. An assay of its unoxidizing ores gave in gold, over \$3,000 per ton. Power, from eight to twelve feet.

Letter to same from Whisky Diggings, says: The different companies are taking out more than the usual quantity of gravel of more than usual prospects. Owing to the scarcity of water, there has been very little washing done since last spring; but each company has got out a pile of gravel, and now waits patiently for rain.

By permission we publish the result of several assays made by Crossman & Cochrane within a few days, from ores of the recently discovered lodes in this vicinity:

San Jo Bar.—Specimens of quartz containing iron pyrites: Gold, \$10.15. Silver \$1.80. Total per ton—\$12.05.

Good Hope Co.—Sample of quartz containing iron pyrites: Gold, \$650. Silver, \$7.20. Total per ton—\$657.25.

Paxton & Co.—Sample of indurate of talc containing iron pyrites: Gold, \$50.22. Silver, \$3.15. Total per ton—\$53.37.

Ackley & Co.—Sample of quartz and talc containing arsenical pyrites: Gold, \$3,074.96. Silver, \$39. Total per ton—\$3,113.96.

Redding & Co.—Sample of quartz containing iron pyrites: Gold, \$125.46. Silver, \$3.15. Total per ton—\$128.61.

Mexican Mine.—Sample of concentrated sulphurets: Gold, \$374.26. Silver, \$6.82. Total per ton—\$381.08.

American Hill.—Sample of quartz containing iron pyrites: Gold, \$75.24. Silver, \$4.73. Total per ton—\$79.97.

Washoe—

NEVADA.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

From the *Gold Hill News* of Nov. 8th: The Yellow Jacket Silver Mining Company, Gold Hill, to-day declared its regular monthly dividend of fifty dollars per share, payable on the 15th.

The Imperial Silver Mining Company have declared a dividend of \$8 per share, and the Hale & Norcross one of \$100 per foot. The Crown Point Gold and Silver Mining Company have also declared a dividend of \$50 per foot.

Reese River—

From the *Reveille* of Nov. 5th: There were

brought into town yesterday from the famous Murphy mine, in the Twin River district, over 5,000 ounces of crude bullion.

Same of 6th: We are informed by persons who have just returned from Twin River, that the magnificent mill of the Murphy Company works beautifully in all its parts, and is the admiration of all who have visited it. It is by all odds the finest mill in the eastern portion of the State. There are six pans and six settlers. The pans are of unusual size, both in diameter and depth, and receive nearly twenty-five hundred pounds at a charge, and it is claimed that a settler is essential for each. Besides the mill structure, there is an elegant and commodious office of two stories high, and other adjacent buildings, affording the most thorough facilities.

Same of 8th: A new mining district has been organized in the southeastern portion of the State. It is about twenty-five miles south of Hot Creek, and adjoins the Empire district. It is called the "Milk Spring" district. Wood and water are abundant. Captain S. Baker and party discovered and located some five ledges, varying from five feet to twenty feet in width, and although spotted on the surface, they exhibit remarkably rich mineral. From present indications it promises to rank with the Reveille and other noted districts lying southeast of Austin.

Two tons of ore were brought in to-day from the Danville district, and were taken to the Keystone mill for reduction. The ore was obtained from the Vanderbilt ledge, which is regarded as the most promising in the district, and is of a superior quality.

Same of 9th: We were shown yesterday by William Parry, a small bar of bullion procured from ore of the Victorine ledge at Blunker Hill, which was of a high grade. It contained a large amount of gold, being worth \$6.50 per ounce. The ore was reduced at the mill of the New England and Nevada Company, at Kingston, and the gold was amalgamated in the battery.

We learn that the Consolidated Silver Mining Company are erecting a 10-stamp mill, with a 30-horse power engine, at Hot Creek, where they own important mines. The machinery passed through town yesterday on the route from Sacramento City to the district. The General Agent of the company, Mr. T. F. Gould, is sanguine of having the mill completed and running by the first of January. The company has five engines and ten boilers, with all the necessary machinery, at Sacramento, and it is in contemplation to erect shortly at certain points two mills, each capable of reducing twenty tons of ore daily.

The Reveille district bids fair to prove the very richest yet discovered in this region. Mr. John Reed has just sent to our office a small parcel of nearly pure silver, which he obtained from one-fourth of a pound of ore from the Fisherman ledge. The ore was burned in a blacksmith's fire, and yielded over thirty cents of silver.

From the *Nye County News* of Nov. 3d: Messrs. Gillette and O. T. Clark, laid upon our table yesterday some very fine ore, obtained from Hot Creek district. They report the discovery of several very fine ledges, and the ore shown us will bear them out in their report. They think the Hot Creek country the richest yet discovered, and report many ledges of immense size and richness. A 10-stamp mill has been removed from Austin to Hot Creek, and the prospect is good for another mill in the district before long.

A gentleman just from San Antonio reports business as tolerably brisk in that district. Courter and Rigby have a large force at work upon their mines, which are being developed with the aid of an abundance of Eastern capital. They have on the ground the machinery for a 4-stamp mill, intended for prospecting purposes. An agent from New York had just arrived at San Antonio, with a gang of men to work upon the Liberty mine, which will be thoroughly developed during the winter.

Esmeralda—

A letter from Wilsonville to the *Mariposa Gazette* of Nov. 10th, has the following: "We are now opening one of the richest mines the world ever saw, if we can judge from present appearances. It is one of those discovered by a Mr. Wilson, in July last, between East and West Walker river, some seven miles west of East Walker district. Mr. Wilson has out some seventy-five tons of rock, that according to the assay pays over five hundred dollars in fine gold. His ledge is fourteen feet thick and widening as it goes down. This ledge is called the Himalaya.

The Mastodon was the next discovery, located by the Wheeler brothers. Their shaft is nine feet square and fifteen feet deep, from which they have taken some fifteen tons of rock as good or better than Mr. Wilson's. The rock is richer at the bottom than on the top. This ledge is located for about one mile, the croppings from the whole of which are good. The next ledge discovered was the Grand Moonshine, which has been prospected about one mile, the croppings from which pay beyond all reasonable calculation. Besides these

ledges we have the General Grant, the Andrew Johnson, the Bridgeport, the Starlight and this Deposit No. 1, 2, 3, and 4. The rock from all these ledges is of the same richness. A Mr. Strutevant has purchased in the Hinalaya at \$100 per foot. There are three parties now negotiating for mills to erect here, and by the first of April intend to have them in operation."

IDAHO.

From the *Owyhee Avalanche*, Nov. 3d: The steam hoisting works recently used at the north shaft on the Poorman have been removed to the Surplus Oro Fino mine—their first location. It is expected that a contract will be let on the Surplus, and work soon commenced. Oro Fino presents quite a deserted appearance, and one that will probably never occur again after the opening of business next spring. . . . We made a call on the Woodstock ledge last week and found the owners at work in good earnest. Their discovery is down the mountain side, and they have thus far been expending their labor mostly upon building a road to the one leading to the Poorman. They now have it in a passable condition and are at work upon the mine, from which they expect to crush ore soon. While at the works we were shown some rock very rich in free gold and silver sulphurets. . . . Geo. S. Norris is now engaged in driving a tunnel on contract on the Hays and Ray ledge, which will strike it at a depth of one hundred and fifty feet below the surface at the South Poorman shaft. He has nearly four hundred feet to run yet. . . . The 4-stamp mill, at Silver City, known as the "Morse & Vass" mill, is being removed to Flint district. We believe Russ Carter and L. W. Greenwell have purchased it with the intention of working and thoroughly testing the Rising Star ledge. . . . Over nine hundred pounds of first-class Poorman ore was discovered in a cabin on War Eagle, by means of a search-warrant placed in the hands of the sheriff.

From the *Boise City Statesman*: John Justus, who has just returned from a general prospecting tour, states that a rich mining district has been discovered on the Salmon river, near old Fort Lemui, and distant from Walla Walla about 450 miles. The gold is represented to be fine, worth \$16 per ounce, and will require quicksilver to work to advantage. A large number of claims had already been taken up, and Mr. Justus anticipates that the New Salmon will become a flourishing mining district.

The *Idaho Times* of the 26th inst., says several of our citizens are about to act on our suggestion of sinking a shaft, and taking a peep under our surface bedrock. We are glad to see it. We will take a little stock, for we are confident that future developments will show that we know but little of the wealth of Boise Basin.

The *Avalanche* has an editorial in which the difficulty of inducing capitalists to invest in the mines of the Owyhee district is attributed to the fear of expensive litigation. The same game that has been so often played in California, is tried there; and an appeal is made to all classes to frown upon such tricks, as being ruinous alike to all interests.

ARIZONA.

From the *La Paz Gazette* of Oct. 25th: The Big Bug mill is entitled to the credit of having turned out Arizona's first gold bricks. The mill is on Big Bug creek, about fourteen miles northeast of Prescott, and was erected by Chas. Berger & Co. It is a 10-stamp mill. . . . The Woodsey mill has been running for some time, with encouraging results. It is of five stamps, and is on the Agua Fria, about twenty-one miles from Prescott. . . . The Johnson & Groom mill is nearly ready for running. It has a four-stamp battery, with two Beath amalgamators. . . . The Vickroy mill will, it is expected, soon be put in operation. It is on the Bully Bueno lode, in Turkey Creek district, about thirty miles southeast of Prescott. It is owned by a Philadelphia company. . . . A. O. Noyes & Co. have on the way from San Francisco a 10-stamp mill, similar to Berger's, which will be put on the Umpqua mine, eight or ten miles from Prescott. . . . On the mine of the New York Moss Association, near Hardyville, Charles L. Strong, the superintendent, has put up extensive machinery, comprising a 40-horse power engine, and two 5-stamp batteries. . . . Mr. Ravenna is about making arrangements for the erection of a mill on his rich lead, the Conquest, near La Paz.

Tyson's mill, on Eureka rock, has got to work; it will yield well. A second Lamson Thunderbolt Crusher is about to be erected on the Ticonderoga. Rich rock has been struck on the Galsua. Woodsey's mill is steadily running, with an excellent yield.

On the 8th Nov., the schooner Isabel arrived from the Colorado river, bringing 3,514 sacks or about 210 tons copper ore. This is by far the largest shipment of copper ore ever made from that region. The ores generally found are carbonates of copper, which are easily worked, being reduced to commercial purity at one smelting.

COLORADO.

From the *Journal*, Oct. 23d: The old Henderson mill, twelve stamps, started up to-day under the management of Charley Aldrich. . . . We learn that the Smith & Parmelee Company are now running 100 stamps. . . . We saw last Monday in the hands of D. D. Belden, over 200 ounces of amalgam, the result of one week's run from a portion of the Black Hawk mill.

Editorial correspondence of same from Backskin, has the following: The Beaver Creek Mining Company have been at work here four years getting a bed rock ditch and flume in to the richer portion of the gulch. Their flume is 20 by 24 inches in size, three-fourths of a mile long, and its upper end, now within a yard and a half of the bedrock. The work is the most extensive of that description I have yet seen. There will be at least nine companies at work in "the Park" next season. The whole country for thirty miles pans out the color.

The Excelsior mine, belonging to the Colorado Company, of Philadelphia, crops out along the edge of a cliff a thousand feet above the town level. The vein is seventeen feet wide, quartz and dirt, and averages, without counting in a small but regular formation of silver of \$5,000 a ton richness, \$79 a ton. Very rich copper ore is coming in at 130 feet depth—17 per cent. There are a thousand tons of quartz and dirt in crib now, and 2,000 mors thrown down in the mine, ready to be raised. About 400 feet below the outcroppings of the lode, a tunnel has been started in, and from that it is expected to work this mine after this year. A part of the machinery of this mill will be started this month.

Below Hamilton, on Faryall creek, two or three companies have been mining by ground sluicing and hydraulics. One of them has worked into the creek bank 400 feet, it paying better this further he goes, and last week his return was \$23 to the hand per twenty-four hours. He has worked out about an acre. The soil is about twelve feet thick, and is a hard, dry gravel, very hard, but easily knocked down and dissolved in water. We shall see, very soon, in the South Park, some of the largest and most remarkable placer mining operations ever seen anywhere.

From the *Denver News*, Oct. 24th: The Nonpareil Prospecting and Mining Company have suspended operations for the winter. The company's prospector, Mr. Joe. T. Boyd, arrived in Denver on Saturday. He has secured some very fine property for the company in the Snake River district. . . . The C. P. & M. Company have discontinued for the winter the work in their mines, over the range, and will turn their attention to the development of mining property in Ward district until next season. . . . A tunnel is now being run on the Eureka lode in Snake River district. The lode is the property of the Colorado and St. Louis Company. At the depth of eight feet, the crevice shows four feet wide. The rock assays \$384 per ton.

Editorial correspondence of same: Along Clear Creek, below Idaho, some mining is being done in the bars. Our sluice is paying twenty-five dollars a day to the hand. Some new bar claims are being opened. . . . At Spanish Bar, the Lombard Company is pushing its works; both building and mining. At Mill City, Mr. Hawkins is pushing work on his company's tunnel and mines with encouraging prospects. . . . In Georgetown and Elizabethtown, four smelting furnaces for silver ores have already been built, and another is under contract to be finished this fall. One of these is the property of Jos. Watson, and was expected to start up to-day on very rich ore from the Baker lead. The furnace of Herrick & Co. is the most extensive and the most expensive of all. It will be completed in about two months.

At Argentine things look dull, most of the cabins have the appearance of being closed for the winter. Work is still going on in one or two mines. The Paymaster is being worked energetically by Messrs. Stowell & Bennett, who carry their ore down to Elizabethtown. In Fern district considerable work is still being done, though quite a number of prospectors have left. Probably not less than seventy-five leads have been sunk upon this season from ten to twenty feet. A few men will winter here with the intention of continuing work upon a few leads.

Mr. F. N. Bogue, of Idaho, informs us that Dr. Holland, of Trail Creek, Clear Creek county, is running a stamp mill for custom work. The mill is doing a good business for the different miners, and all are well pleased with its operations. . . . The Whale mill, the largest in the Territory, is now running. The South Clear Creek Gold and Silver Mining Company are working on Spanish Bar with good returns. Considerable mining is also being done on the bars below Idaho. Mr. Bogue is of the opinion that, from the work now being prosecuted, there will be more money taken out of Clear Creek this month than there has been for the past three years.

Letter from Hamilton, says in regard to the

mines in that neighborhood: One bank claim, working three men, has yielded regularly over a pound of gold per week. Another has given fifteen dollars per day to the man. Still another—which averaged a less amount for the season—yielded twenty-five dollars per day to the man towards its close.

MONTANA.

From the *Post*, Oct. 27th: We saw Mr. Moore, the Recorder of Brown's Gulch, yesterday. He showed a fine nugget that was taken from claim No. 9. Eight flumes are being worked with successful results, but many owners are waiting for the next spring. The depth to the bedrock varies from six to twelve feet, and water is abundant. The discovery is near the rich "True Flag" lead. One claim paid \$70 per hand during the last week, and Mr. Moore states that he has seen six dollars taken from one pan of gravel. About sixty miners are laboring at different points in the gulch. . . . In Rochester gulch, the gravel has yielded forty cents, and \$1.50 to the pan, and all speak in high terms regarding its wealth. This water will be brought from Camp creek, and a ditch has been commenced, which will be finished this winter.

Helena item: The miners in the upper part of Dry Gulch have been prevented from working by the snow and bad weather of the past week. They have no intention, however, of abandoning their claims for this season yet. In this part of the gulch the miners are taking out good pay, and are not compelled to lie idle for want of water, as is the case with those owning claims further down and nearer the city.

From the *Nevada (Cal.) Gazette*: We had a conversation yesterday with Mr. Humphrey, who left here last spring for Montana, and returned a few days ago. He gives a more favorable report of the prospects of that country than we have generally had from other sources. He says the mines are rich and shallow, and easily worked where water can be had; but as yet there are few ditches, although the country is much more favorable for constructing ditches than California. Humphrey is interested in a ditch, which is now completed, and is sixteen miles in length.

OREGON.

From the *Times* of Nov. 12th: Mr. Foster of Umatilla, called on us last evening, and gave us the cheering information that hill diggings were discovered last Friday within a mile and a half of Umatilla City—up the Umatilla river—which prospect from five to ten cents to the pan. The gold is very fine, but no difficulty is experienced in saving it. Claimants were already putting in sluices when Mr. Foster left, and he thinks it safe to say that not less than a dozen will be in full operation before the close of this week. Water in abundance can be used from the Umatilla river without great expense. The locality where these new mines are found has been traveled over for years without discovery or suspicion of their existence.

BRITISH COLUMBIA.

From correspondence of the *Montana Post*, Oct. 27th: The excitement of Salmon and Green rivers still find customers, and in spite of the cold weather and snow-storms just now raging, many are bound thither—some with wagons, some on horse-back, with pack-animals, and less fortunate ones ride on foot. Considerable calculating and figuring is made upon diggings located about 650 miles north of Helena, on the Suchaneau river, in the British possessions. No doubt quite a rush to that section will be the result of a long winter's consolation upon the reported mines.

A gentleman who left the Kootenai mines on Nov. 1st, gives the following items: The weather was fine and no snow had fallen. About sixty white men and three hundred Chinamen will winter at Fisherville. One hundred and eighty Chinamen were reported on their way to the mines from the Columbia river. The diggings average about wages.

STEWART'S EARTHQUAKE REGISTER.—The San Jose *Mercury* of November 8th, says: "During the past seven months the Register, invented by W. F. Stewart of this city, has noted nine distinct shocks or oscillations of the earth's surface. The direction of the oscillations have all been N. E. and S. W. The Register marked seven of these shocks with single straight lines indicating an electrical shock in one direction. Two of the shocks were curvilinear or spiral upon the disk."

EXPLOSION OF YEAST.—A keg of yeast recently exploded in an express office in Freeport, Ill., hurling a forty-pound bar of iron lying upon it through the ceiling above into a crate of crockery, to the detriment of earthen ware. The express agent, who was standing near, was violently thrown over a pile of boxes and considerably injured.

Metallurgy.

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Metallurgists and Mining Engineers
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Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. H. TIRMANN.
MAYNARD & TIEMANN,
Mining Engineers and Metallurgists,
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—AND—
CENTRAL CITY, COLORADO.
11v12 ly

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney for N. Haskell, for the sale of his COPPER SALTING PATENT, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to lay their Ore, receivable at their mines. For further particulars, apply to
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The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.
S. F. KIMBALL, J. R. MURPHY.
11v10 ly

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And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, ETC. We have given this branch of our business particular attention, to select such articles as are necessary for the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUPPLIES, ACIDS and CHEMICALS, constantly on hand.
San Francisco March 6, 1855. 11v10-11

Quartz Mill Construction and Superintendence.

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of all other ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address F. M. SHAW, San Francisco, care Mining and Scientific Press. 11v13-14

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Gives exclusive attention to
Diseases of the Eye.
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Dr. Powers refers, by permission, to Rev. A. L. Stone, D.D., Ira P. Rankin, Esq., L. B. Benchley, Esq. 17v13-6m

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PATENT BUSINESS.
We have lately associated with us in the Patent and Mechanical Department of the MINING AND SCIENTIFIC PRESS, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner.
DEWEY & CO.,
San Francisco, June, 1866. Patent Solicitors.

Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

G. W. M. SMITH. W. B. EWER. A. T. DEWEY.
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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
SAN FRANCISCO, Jan 11th, 1866.

San Francisco:

Saturday Morning, Nov. 17, 1866.

NOTICES TO CORRESPONDENTS.

OWING to the large amount of correspondence received relating to interesting points connected with Mining, Metallurgy, Mechanics, etc. we are compelled, for want of time and space, to reply briefly in the following form to a portion of such queries as are of general interest.

S. M., MAGNETISM.—The tendency of opinion amongst scientific men has of late more and more pointed to the establishment of the view that what is termed electricity, magnetism, heat, light, etc., are correlative—that is, having a reciprocal dependence on each other, the varied display being made through the medium of motion. The celebrated Lord Bacon inferred, from a large number of facts, that heat is essentially motion. Faraday made some experiments which went strongly to establish the principle that the particular force discovered and named by Newton, and ever since denominated gravitation, is probably only an allotrope (changed condition) of the same mysterious agency. Notwithstanding the great ability and immense research displayed by recent writers on "The correlation of forces," we are strongly inclined to think that some very simple and well known facts go far, unless fully explained, to negative much of their powerful reasoning, and invalidate what might otherwise be accepted as brilliant demonstrations. We may take the well known property of the magnet itself, either artificial or natural, of suspending a piece of iron for an unlimited time, or attracting, under fitting conditions, a limitless series of pieces, by which force must necessarily be expended in each instance, notwithstanding which the attracting magnet will not lose a particle of its weight; nor will its magnetic property be in the slightest degree impaired. Miners could add much to the facts already known respecting this mysterious agent, by making a series of observations in their mines. In order to be of the utmost service, such observations should be kept in a regular register, inserting not only a variation of the needle, but a column should be added for the temperature noted at the time of each magnetic observation; a wide column should also be left, in order to insert any remarkable perturbation—such as an earthquake, thunder-storm, etc., etc.

THE LOADSTONE is a natural magnet found in some places in enormous masses, and commonly known as magnetic iron ore, the magnetic properties usually being proportioned, as it is more or less composed of exact mixtures in atomic proportions of the protoxyd and peroxyd of iron. It has mistakenly been held even in many recent works on chemistry and mineralogy, (Miller's Chemistry, for instance), that the loadstone, or magnetic oxyd of iron, acquires its magnetism from the inductive influence of the earth. The following facts, however, completely disprove such an inference. If a piece of pure magnetic iron ore (loadstone) is dissolved in muriatic acid, a solution will be obtained consisting of a mixture of the proto and perchlorides of iron; if the acid is subsequently neutralized by an alkali (ammonia is to be preferred), the precipitated mixed oxyds will be found to possess precisely the same magnetic properties as the original loadstone. This solution, neutralization and precipitation, may be repeated a thousand or ten thousand times on the same material, invariably with the same result. As a still more crucial proof that the magnetic property of the loadstone is in no manner connected, or derived from any real or imaginary magnetic currents in the earth's crust, we may add that an artificial loadstone can be prepared from mixtures of the per and proto salts of iron, which are much more powerful in magnetic properties than any natural ores yet discovered.

BOOKS MISSING.—We offer a suitable reward for the return of the following valuable books, recently missed from this office: "Life and Travels of Alexander Von Humboldt," Vols. 1 and 2 of "Cosmos," several volumes "Annals of Scientific Discoveries," and "Popular Treatise on Gems."

ELECTRO(?) QUAKES vs. EARTHQUAKES.

The editor of the *Alta* has recently been pluming himself upon an asserted original discovery made by him, respecting those perturbations of the earth's surface, commonly, and, as we believe, more correctly denominated earthquakes, rather than "electro-quakes," as the sage of the *Alta* proposes that they shall hereafter be called. In order to prevent the slightest charge of misrepresentation, we insert his own statement, which appeared in that journal on the 3d instant:

Some months since a theory was advanced through the columns of the *Alta* which was decidedly novel—so much so, indeed, and so foreign to all previously accepted notions in regard to the cause of the shaking of the earth, as to excite much comment and no little incredulity; but for all that, the article was copied by a scientific paper in one of the older States, and endorsed. We now find, on receipt of our files of Parisian papers, that that which was supposed to have been a severe earthquake throughout France, was, according to the ideas of French savans, nothing more than what might be with consistency called what we first termed it, an Electro-quake. For instance, it is stated that, previous to the shock felt so distinctly at Paris, "The birds in the cages, at least ten seconds before the shock was felt, fluttered and hopped wildly about, and made the most determined efforts to escape." Again: "Owing to the peculiar state of the atmosphere, a paper with some chemical matter on it, which had been put out to dry previous to the shock, turned a color which was totally unexpected."

These and other interesting facts will uphold the *Alta* in the new theory put forth that, owing to the great amount of electricity in the atmosphere at times along the coast near San Francisco, we have these slight shocks, which continue from one year's end to the other, without the least cause for alarm.

Before proceeding with any comments on the above, we have to remark that he has failed to show what French savans endorse, as he asserts, this electro-theory. It is true the same number of the *Alta* which contains the paragraph quoted, has another headed "Particulars of the Earthquake in France," copied from the *Moniteur* of Sunday, the 16th of September last, in which the above and several additional phenomena are described. Fortunately for the character of the scientific (?) paper in one of the older States, which it is now asserted copied the original article from the *Alta*, and endorsed its views respecting electro-quakes, its name is not given; and perhaps the author of this so-called novel theory will continue to be reticent as to its title.

It will, perhaps, be somewhat annoying to the self-gratulatory spirit which pervades the prior part of the paragraph above quoted, as well as some that will be hereafter noticed, to learn that more than a century has elapsed since a similar theory was propounded by Dr. Stukely, whose memoirs on this subject were printed in the Transactions of the Royal Society, London, for 1749 and 1750. Dr. S. referred the phenomena of earthquakes to electrical action, supporting the conjecture (for it has never been accepted as anything more by those best acquainted with this and cognate subjects), by referring to the vast extent and mass of earth simultaneously shaken, and also from the prevalence of electrical phenomena attending earthquakes; several instances of which are given in the papers alluded to.

It will thus be seen, that so far from the theory of electro-quakes being novel, it has been propounded upwards of a century, and inserted in the oldest and highest scientific periodical in existence,—one accessible and well known to all men of scientific acquirements, and frequently referred to; yet, although a hundred and sixteen years have elapsed since the appearance of the papers under notice, and the fact that they were well known to all the numerous eminent electricians who have flourished since that period, including our eminent countryman Franklin, this theory has never been accepted or even obtained a footing amongst well informed electricians; on the contrary, Sir William Snow Harris, one of the first of living electricians, has observed, "That a high amount of electrical action attends these wonderful operations

of nature is quite certain; but in the present state of our knowledge of such phenomena, their reference to pure electrical action as a primary cause, must necessarily be considered to rest on a very hypothetical basis." Such are the modest conclusions of a truly scientific man; yet, if we were to put the question as to the originating cause of earthquakes to an ignorant humpkin, the chances are one hundred to one, if an opinion is elicited at all, that the reply will be electricity. In fact, we have heard this expressed a thousand times amongst the uninformed—and not unnaturally so; for the one class of phenomena must be about as mysterious as the other to the uneducated mind, whilst there are prominent characteristics connected with each which cannot in any manner, with ordinary minds, be so nearly paralleled by any other easily observed natural phenomena.

In another place the modern promulgator of the electro-quake observes:

We based this theory of electro-quakes originally upon purely scientific grounds. If earthquakes are caused, in all cases, by internal convulsions, the houses and structures on the surface of the earth can exhibit no motion but that which had been communicated to them. The most prolific imagination cannot conceive of a trouble in the interior of the earth that would give a rotary motion to anything on top of it.

Had the writer in the *Alta* been acquainted with dynamics, he would have known that where solid bodies have been rent horizontally, and portions twisted from their original position by earthquakes, as in the case of the Calabrian obelisks, and similar instances, that such a transposition of parts is not caused by any vortice motion of the earth, but arises from the center of gravity of the body so twisted or disarranged, lying on one side of a vertical plane in the line of shock, which passes through that point on the base on which such body rests, in which the whole adherence of the body to its support, by friction or cement, may be supposed to unite, which has not inappropriately been called the center of adhesion. The phenomena of twisted columnar structures is not confined to earthquakes; the same not uncommonly takes place when heavy and rapidly driven wheel carriages are brought into contact with such edifices. This phenomenon, together with the philosophy of the earthquake-wave, was more fully discussed and explained in our issues of October 21 and 28, and November 11, of last year.

There are several other erroneous opinions expressed in the articles noticed, to refute which, however, would require more space than can at present be devoted to them, or their importance deserves. We may, however, briefly allude to the disturbances sometime exhibited by the animal creation, either preceding or during earthquakes, occasionally to an extent, it has been asserted, sufficient to destroy life amongst birds and fishes; such mortal termination might, however, be occasioned by other means than that of electricity. This branch of the subject is one which, of itself, would form a long and interesting article; all that we have room at present to state with reference to this point is, that the effects alluded to as occurring to certain members of the animal kingdom have only been observed occasionally during earthquakes—in fact, form the exception, not the rule—nor would we have thought it necessary to refer to this matter, but for the strong desire which we felt to give our cotemporary the benefit of any matter which might be calculated, in the remotest degree, to support his position.

We are far from desirous of being understood as negating the occasional influence of the electric agent, whether called by the name of electricity, magnetism, or any other title, in inducing earthquake phenomena; in fact we would feel inclined to admit that it is difficult to conceive how an earthquake can occur without developing one or more of the forms of these mysterious influences; notwithstanding this admission, we are compelled to maintain that, even in such cases, the influence is indirect, and not the primary dynamic cause.

The most experienced seismologists* deem

*Derived from the Greek word for earthquake.

it established that no earthquake is simply "The transit through its crust and along its surface in any direction, from some point or points within the earth's interior, of a wave or waves of elastic compression, from vertically upwards to horizontally in any azimuth. That the originating force may emanate from any center, or from more than one. Such perturbations, according to circumstances, may be accompanied by sound and great aqueous; and occasionally aerial commotion. The former phenomena will be more or less apparent according to the amount of the initial force and its proximity to the observer. The latter will depend upon the relative position of sea and land contiguous to the center of the disturbing cause."

A careful and candid examination of facts connected with earthquakes, will satisfy any reasonable mind that the theory just quoted not only covers almost all the phenomena usually associated with earthquakes, but also that it is clearly explicable on known principles, and capable of all but mathematical demonstration, notwithstanding the existence of what, to the unlearned, appears to be glaring anomalies and paradoxes.

There are certain features connected with electricity which to us appear to render it improbable that it can be the originating cause of earthquakes. The first is the extraordinary speed by which it travels, amounting to 288,000 miles during a second, or, in round numbers, five hundred thousand times the speed at which the earthquake-wave travels—as the latter rarely exceeds the rate of thirty miles a minute. Our second reason arises from the very concentrated intensity in lines and points which appear to be required in order to produce any powerfully marked effects by electric influence, whilst on the other hand the results of earthquake energies are noticeable for the immense area over which the disturbing influences are sometimes spread, whilst the most intense and extensive electric storm ever known, will only splinter or destroy a few trees or prominent buildings—and these oftentimes miles apart, the bulk of the country being undisturbed.

PROCESS OF ROASTING ORES.—Under the above head, we this week commence the publication of a series of articles translated from the German of F. Plattner, by Prof. J. H. Tie-mann, M. E. a gentleman who has passed considerable time in Germany and other portions of Europe, investigating the various processes of mining and metallurgy, as there practiced and exhibited. These articles are translated originally for the New York *Mining and Gas Light Journal*, and will be reproduced in the columns of the MINING AND SCIENTIFIC PRESS, as fast as they appear in the *Journal*. We need not inform our scientific readers that the author of these papers, in the original German, was the ablest metallurgist of his age, and that his work from which these papers are translated, is the most complete and exhaustive of any work upon the subject of roasting ores which has ever been written; yet, strange to say, it has never yet appeared in the English language, although there is a French translation of it. Our mining readers will find an amount of information in these papers which will repay for their perusal, and which alone will be worth more than a year's subscription to the Press.

ACCIDENTAL INSURANCE.—This class of insurance has proved popular wherever introduced. It appears to be a lucky lottery, in which if you draw a prize your money is well invested, while if you draw a blank it is better than a prize. For a company of good reputation, we refer our readers to the advertisement of Messrs. A. D. Smith & Co.

PERSONAL.—Mr. John Wasson, of the Owyhee *Avalanche*, published at Silver City, Idaho, is now on a short visit to this city. He has contributed for our cabinet several valuable specimens from the Poorman and other ledges in that vicinity, which we shall describe next week.

THE "CUTTING BROMIDE PATENT."

The disposition to evade and over-ride patents, so often seen, deserves the censure of every honest man. For our own part, we favor the doctrine embraced in the phrase, "Live and let live." If a man is entitled to the fruit of the labor of his hands, he certainly is to that of his brains.

Probably all photographers in the United States, certainly all those who are in the habit of reading those journals which are devoted to their own specialty, are familiar with the patent named above. It will not, however, perhaps, be amiss to recapitulate, in brief, its history, and to state the present relative position of its assignee with photographic artists.

The patent was issued on the 11th of July, 1854, to James A. Cutting, of Boston. The principal claim embraced in it, is the use of bromide of potassium in combination with collodion. The issue of the patent caused a considerable excitement throughout the country. Societies were formed among the photographers in Boston and New York "to resist it to the very death," and money in abundance subscribed to defend any one who might be prosecuted for infringement. In 1858, William A. Tomlinson, the assignee of the patent for the city of New York, commenced a suit for infringement against C. D. Fredericks & Co., of that city. They determined to stand the claim and make it a *test suit*. Able counsel were employed, and all accessible testimony gathered from American and European scientific journals, to show, if possible, the lack of claim to novelty in the invention. The suit was still pending at the commencement of the war; and, owing to circumstances growing out of it, was continued until 1865. In that year T. H. Hubbard became general assignee of the patent, and gave notice that he should press the suit at once. Messrs. Fredericks & Co. became satisfied that it was useless to prolong the contest, and submitted to a judgment against them. They then, by the payment of a sum of money, made an arrangement by which they secured a license to use the invention for the remainder of the term for which the patent was granted; and in conjunction with several others, published a card detailing the facts, setting forth their belief in the impossibility of defeating the patent, and recommending all parties who were using collodion for photographic purposes, to make arrangements as they had done.

The Philadelphia *Photographer* for January of the present year, has an article on the subject, in which the opinion is expressed that the case is fully settled, and that it will unquestionably be the cheapest and quickest and best way, to submit. It has been fully decided that "the use of a known equivalent to an infringement," and that, "although the patentee has not expressly claimed equivalents, he does in contemplation of law embrace them without any express mention." In the said article, a letter from Mr. Hubbard is introduced, in which he states that nearly all photographers in New England, and many in other States, have settled the matter. He proposes terms which he submits as fair, while at the same time he announces his determination to take stringent legal measures against all those who refuse to meet him. He says, "I claim as infringers all who use a 'Bromo-Iodized Collodion' for photographic purposes."

In the October number of the same journal, Mr. Hubbard publishes a French formula in which the bromide and iodide of cadmium, are used instead of those of potassium, and in very different proportions from those named in the patent. This formula has been sent to him with the question whether it is sufficient to defeat the Cutting Patent. He answers that it does not even touch its validity. He adds: "Photographers may go on and keep 'fishing up' such fossil defences as this; and, in the end, they will find that I am not to be intimidated, but shall give them all an opportunity to invest in litigation upon the subject to their heart's content." He furthermore says, that he does not propose to give them the benefit of a combination to defeat him, inas-

much as the law gives him a remedy. In support of this point, he quotes the language used by Judge Storey, in a certain case: "It would seem that a combination of persons to resist a patent, approaches very near, if it does not actually reach, a criminal conspiracy." Mr. Hubbard closes the communication by insisting that it is for their own interest that "he warns photographers not to attempt to evade or defeat the bromide patent."

Messrs. Bradley & Rulofson, of this city, have become possessed of the sole right in this patent for the Pacific coast. We understand that they now offer to meet in a liberal spirit, and on satisfactory terms, all photographers who choose to adjust the matter with them, while they intend to enforce the law against those who stand aloof, and persist in their use of Bromo-Iodized Collodion, or its equivalent, without the payment to them of a consideration to be agreed upon, which will doubtless be based upon the rank among operators which is held by the respective artists.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

RECENT INVENTIONS.

"GUN CLOTH" is the name given an article by the *London Builder*, the inventor of which claims for it great advantages over gunpowder, gun-cotton and other explosives. It is intended to supersede the use of gunpowder, and all similar explosives, for all the purposes of throwing projectiles and for blasting.

The patentee claims for the gun-cloth charges freedom from all risks of accidental explosion, except when confined in a gun barrel or bomb-shell. They are non-explosive, they burn but do not explode, and if lighted and held in the hand they are harmless—in fact they may be dropped down a red-hot barrel without fear of danger. A hundred may be lighted at once, and the result will not be more explosive or dangerous than the fire of a lot of shavings. Neither would the firing of a whole magazine be attended with more danger than the burning of so much wood or cotton paper. The recoil is scarcely perceptible; the report is only one-half; smoke there is none, the combustion is perfect, and there is no residue left to foul the barrel; and withal, these charges are superior to gunpowder as a propelling agent—at least so says the inventor. Gun cotton was, as formerly made and used, an uncontrollable, unmanageable, capricious force, besides being liable to ignite at a low temperature and fire by spontaneous combustion. Gun cloth, this patentee says, as made according to his patent, is a strong but docile servant; weight for weight many times stronger than gunpowder, and capable of being used with entire safety in existing firearms.

A NEWLY INVENTED and novel kind of anchor was recently tested in Baltimore harbor with marked success. The anchor is triangular shaped, with six flukes, which work on pivots, and when one side is imbedded in the soil, the upper part closes; thus, it is claimed, preventing fouling, which is the cause of many ships being lost.

PATENTS RECENTLY ISSUED.

TURBINE WATER WHEEL.—A. Lind, San Francisco, Cal.: This invention relates to a new and improved turbine water wheel, and it consists in constructing the rim of the wheel entire, and placing the stationary buckets in the upper part of the rim, to be cast with the rim. Stops are placed at intervals above these stationary buckets, to be opened and closed in order to utilize the head of water. The power wheel is placed below the stationary buckets. Its upper portion revolves on a flange, which completely surrounds the lower portion of the rim, being a part of it. By this means leakage is prevented. When the rim of the rotating wheel or the flange becomes worn, the vertical shaft carrying the wheel is keyed up from the shaft, thus forming a tight joint. I claim, in combination with the stoppers, H, H', the stationary wheel, C, and revolving wheel, A, substantially as described.

QUARTZ MILL.—Cummings P. Colby, of Laacha Plana, Cal.: This invention relates to an important attachment to stamps used in quartz mills, and it consists in lowering the cam shaft used in stamp batteries to near the top of the mortar, and surrounding this shaft with eccentrics; also surrounding each eccentric with a collar, from which extends an up-

right arm, through which a horizontal spring passes, having a chuck at the end, through which the stamp stem passes, and is kept in place by a set screw. A vibrating bar is placed above the spring and attached to the frame of the machine. At the end of this bar is attached a strap, through which also the spring passes. In this strap is placed an iron chuck, which is pressed down upon the spring by a set screw, thus regulating the action of the spring. By this arrangement a quick percussion blow is given to the rock, and the elasticity of the strap regulated by the set screws. The inventor of this machine claims a large advantage over the ordinary quartz mill, as many more blows may be struck in a given time than by the use of stamps arranged in the ordinary way. I claim the combination of the eccentrics, B, with collars and spindles, and spring, A, arranged to operate the stamps substantially as described.

WASHING MACHINE.—Alexander Badlam Sr., San Francisco, Cal.: This invention relates to so dividing the bottom portion of the machine that the clothes will be above the dirty water, resting on concave hars set edgewise. The beater is a half round piece of wood, corrugated or not, as the case may be, and curved to correspond with the concavity in the elats. Upright arms are attached to the beater, with a loose cross roll or handin, which renders the machine very easy to work. I claim the combination and arrangement of the wnter box with curved slats, a, metal dogs, e, e, serving as weights, handle, e', and dashboards, c, c, the whole being constructed and arranged for joint operation substantially as described.

MACHINE FOR WASHING AND SAVING GOLD. M. A. Woodside, of Georgetown, Cal., has invented a new and improved machine for saving gold, which he calls "Woodside's Endless Blanket," and consists of a machine driven by pulleys, around which an endless blanket of canvas is drawn. A perforated box is placed across the machine, into which the ore or dirt is introduced. A perforated pipe is also placed across the machine above the box, through which jets of water pass, washing the debris downward, while the heavier and valuable particles are carried upward on the endless blanket, and are discharged into a water tank at the head of the machine by means of revolving brushes. By this means the necessity of frequently washing the blankets is obviated. 1st. I claim the endless blanket, H, and revolving brush, K, when arranged substantially as described for the purposes set forth. 2d. The perforated feed box, I, and water pipe, J, substantially as described and for the purpose set forth.

SPICE BOX.—Wallace A. Miles, Meriden, Conn.: The object of this improvement in spice boxes is to prevent the loss of the aroma of their contents. This is accomplished by making them tight and close when not in actual use, their tops being so arranged as to be easily and readily opened to allow the spice to be shaken out after the manner of sprinkling or dredging powdered substances out of a box.

Patents can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, in one-half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE.

DEWEY & CO.,
Patent Agents, 505 Clay street, San Francisco.

A NEW ROCK DRILL.—We understand that Mr. R. A. Thomas, the inventor and patentee of the new drill to which we made brief allusion last week, proposes to visit the mines, in person, with the view of introducing the same. He will take with him one of the machines, which weighs about 150 pounds, and give practical illustrations of its value. The instrument is properly a machine hand drill, and works by pressure with a ratchet; the drill being held to its place by convenient appliances. It is designed to work only in moderately soft rock, but too hard to remove by the pick or gad, each, for instance, as the slate which usually underlies the cement diggings of the ancient river beds. The inventor is a practical miner, and devised the machine for the express purpose of tunnelling in such rock, in his cement claims at Damascus, Placer county, at which place several of the machines are now in use. Mr. Thomas estimates that this drill has saved him at least \$1,000 in two years' working of his claim.

ANOTHER NEW GUNPOWDER.—A letter from Paris states that a German has brought to that city a new gunpowder, invented at Leipsic, which does not explode in the open air when inflamed, but burns like tinder. But in a close cavity it explodes with much more force than any other known species of powder; it is cheaper than ordinary gunpowder, and can be manufactured anywhere. Its ingredients are, however, kept secret.

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. nol0

TOWNE & BACON, Print—

Stock Certificates,
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Circulars,
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Cards,
Billheads,

And every kind of Job Work that may be desired.
A NEW ARTICLE OF TAGS FOR GROCERS' USE.
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OIL! OIL!! OIL!!!

—OUR—
MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

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IMPORTERS OF

COAL OILS AND LAMP STOCK.
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FIRST PREMIUMS!



FOR PRINTING,

AWARDED AT THE
MECHANICS' INDUSTRIAL EXHIBITION

SAN FRANCISCO, 1865,

—AND AT THE—

State Fair at Sacramento, 1865,

—TO—

DEWEY & CO.,

BOOK AND JOB PRINTERS,

PUBLISHERS OF THE

MINING AND SCIENTIFIC PRESS,
505 Clay street, San Francisco.

Baldness! Baldness!!

CAN BE PREVENTED, BY USING

Mayhew's Balsamic Hair Stimulant!

THIS REPARATION HAS BEEN USED AND RECOMMENDED by some of the most prominent members of the medical profession of this city.

For the removal of DANDRUFF, SCURF, for preventing the Hair from falling off, and for producing a new growth, IT IS WITHOUT A RIVAL.

For particulars and references, see circulars accompanying each bottle. Prepared by

W. E. MAYHEW, Druggist,

N. W. Corner Fourth and Howard streets San Francisco.

He gives his personal attention to the preparation of Physicians' prescriptions.

Also, has constantly on hand a choice assortment of French, English and American Toilet Articles. 16v13-6w

California Steam Navigation

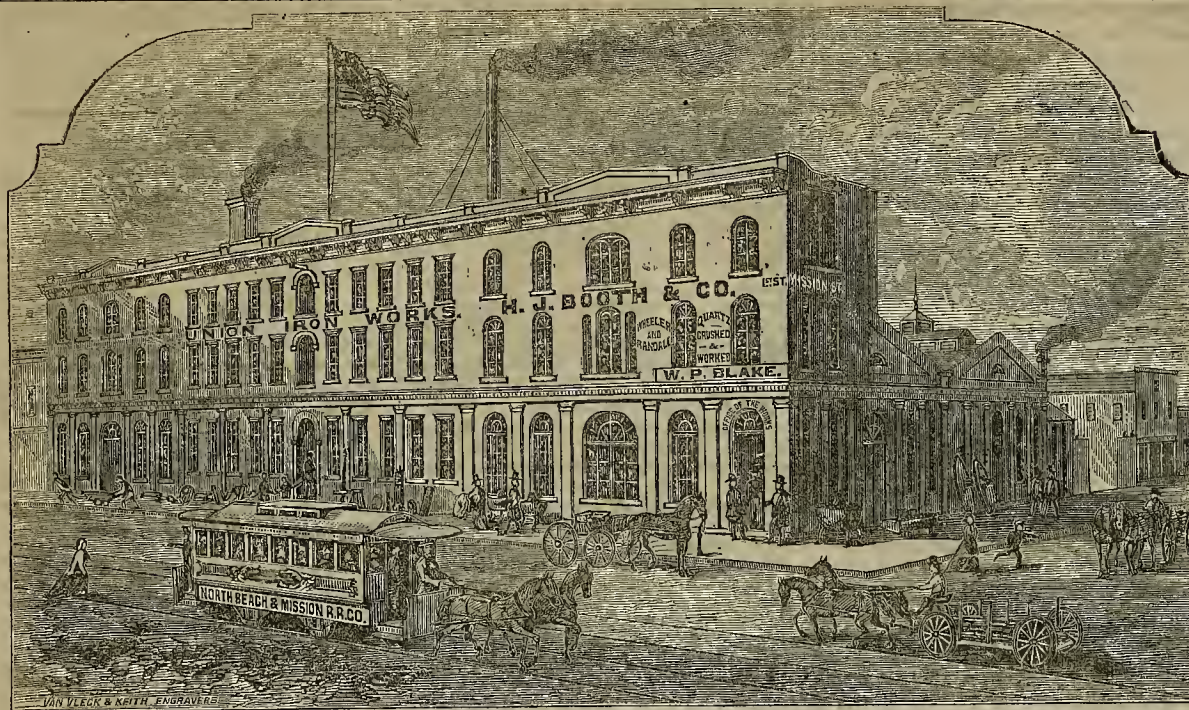
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Steamer CAPITAL.....CAPT. E. A. POOLE.
"CHRYSOPOLIS.....CAPT. A. FOSTER.
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"CORNELIA.....CAPT. W. BROMLEY.
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One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA, ACTIVE and SENATOR, leave, as advertised, for Honolulu, Portland, Oregon, New Westminster, British Columbia, Victoria, V. I., Santa Barbara, San Pedro, and San Diego.
Office of the Company, northeast corner of Front and Jackson streets.
B. M. HARTSHORNE,
President.

Our Patent Agency.

The PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of Letters Patent from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

Its correspondents are men of science and learning, and hail from all parts of the coast. It is published at San Francisco, at \$3 per annum, or \$3 for six months. Address Dewey & Co., publishers of Mining Press, San Francisco. (Nye County News.)



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hay, Bag, Serey and Drop Presses, Coling Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Salvo Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS.—Locomotive, Fine, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Vench's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Oaring, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

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24-12 H. J. BOOTH & CO.

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PALMER, KNOX & CO.,
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SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
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STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight;
without excessive friction, and never
gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any
Wheel in use. There are over 1,500 running,
giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz
mining, and being conversant with all the improvements,
either in Mining or Milling, we are prepared to furnish, at
the shortest notice, the most perfect machinery for reduc-
ing ores, or saving other gold or silver. 13v10q-4f

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PORTLAND, OREGON.

Steam Engines, Boilers,
SAW AND GRIST MILLS,
MINING MACHINERY, WROUGHT IRON SHUTTER
WORK, AND BLACKSMITHING IN GENERAL.
Corner North-Front and E streets,
18v13-ly One block north of Couch's Wharf.

UNION IRON WORKS,
Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF

STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired
with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old Cylinders, manufactured
to order.

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Pick Manufacturer,

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Particular attention is called to his RAISED EYE
QUARTZ PICK, which is especially adapted to Quartz Min-
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GEORGE T. PRAOY,
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STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND
REPAIRED.

Special attention paid to Repairing. 27-47-3

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No. 53 Beale Street,
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FILES RECUT AND WARRANTED AS GOOD AS NEW,
or no charge. The only establishment in the State.
We also manufacture Reamer and Newer Sections.
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LEWIS COFFEY. J. S. RISDON

LEWIS COFFEY & RISDON,
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the
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Makers. All orders for New Work and the repairing of Old
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Old Stand, corner of Bush and Market streets, opposite
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Foundry and Machine Shop,
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MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam
Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Iron,
House Fronts, Iron Fencing, Balcony Railings, etc.,
at San Francisco prices. Orders solicited
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Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED,
in this city, on Fourteenth street, near the machine
shop of the San Jose Railroad, a large establishment for the
purpose of forging and working in wrought iron. Our ham-
mer is the largest upon this coast, and we are prepared to
manufacture, at short notice, all kinds of heavy forgings,
car axles, shafts, steamboat cranks, piston-rods, wagon
axles, and other similar work. This is the first general
shop of the kind erected in this State, and we solicit the
patronage of the public. All orders executed at reasonable
rates, and with promptness and satisfaction. 19v12-3m

F. N. BACON. LINAS STEWART.
BACON & STEWART,
PRACTICAL MACHINISTS,
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All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING PRESS work.
All jobs entrusted to us will be attended to with prompt-
ness and on reasonable terms. The patronage of Printers
is respectfully solicited. 15v12-4y

J. O. HANSCOM; H. S. SMITH. } **HANSCOM & CO.,** { T. FENDERGAST.
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Practical Machinists and Iron Founders,

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STEAM ENGINES,

QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS,

Dunbar's Improved Self-Adjusting

PISTON PACKING,

Now so extensively used in the East and in this State. Re-
quires no springs or screws; is always steam-tight; without
excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else

Wheeler & Randall's New Grinder and

Amalgamator,

Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,

Giving greater power, at lower cost, than any wheel in use

Send for one of our circulars, giving full tables.

All Wheels warranted to give the power as set forth, or
the money will be refunded.

Sole makers for this coast of the "Fendergast

White Iron Stamp Shoes and Dies.

None genuine unless obtained from us. Every one war-
ranted.

Patented Machinery of all kinds will be furnished by us
at market prices. Particular attention given to drawings
and specifications of machinery, which will be made to
order. The patronage of the public is respectfully solicited.
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Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

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Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Brodie's

Improved Crusher, Mining Pumps,

Amalgamators, and all kinds

of Machinery.

Nos. 45, 47 and 49 First street, between Market and Mis-
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Corner of Mission and Fremont Streets,
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MARINE,

Locomotive,

And all kinds of

HIGH PRESSURE

Steam Boilers

MADE.

All Boilers guaranteed and

tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.

All kinds of Sheet Iron and

Water Pipe, Coal Oil

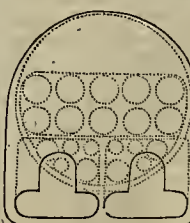
Suits, Wrought Iron

Worms, etc., etc.

Manufactured to Order.

Old Boilers Repaired

D. CAMERON.



6v12-ly

DECISION AGAINST THE EXTENSION OF A
PATENT.—The Commissioner of Patents has
decided that the Yale patent upon cast, chilled
and wrought iron burglar and fire-proof safes
and vaults, dated October 19th, 1852, ought
not to be extended or renewed for a new
term or a term of seven years from to-day, on
the ground that the invention and improve-
ments contained in the patent were the inven-
tions and improvements made by Lewis Lillie,
of Troy, N. Y., as the originator and first
inventor, and embraced in and covered by the
re-issue of his (Lillie's) patent, dated Novem-
ber 21st, 1865, it being a re-issue of a patent
granted on his application—July 15th, 1851.

COSTA RICA GOLD MINES.—It is reported
that a lot of gold dust has arrived in Paris
from Costa Rica. It is said to consist of
about 1,000 pounds of pure gold, and several
specimens of mineral. The latter have been
sent for analysis to the Mining School in Paris.
This is the first result of the efforts of a French
company to which ten gold mines have been
conceded by Dr. Castro, the new President of
Costa Rica. The director of this company is
a French General, named Gallemer, who has
obtained the Emperor's permission to take for-
eign service, and now holds rank as General of
Engineers under Dr. Castro.

THE New York millionaire, A. J. Stewart,
proposes to devote one million of dollars to the
building of small tenement houses for the use
of the working classes, to be let at a low rent,
suited to the means of those in receipt of but
small incomes, and to devote the accumu-
lation of receipts for rent, etc., to the exten-
sion of the undertaking. For this purpose Mr.
Stewart has applied to the municipal authori-
ties for a grant of land, stipulating that the
sole management of the matter, the appoint-
ment of trustees, and one or two minor points,
should be vested in his hands.

METALLIC ABSORPTION.—Snuff, when kept
in metallic vessels, possesses the property of
metallic absorption; thus, when kept in a
lead vessel, it will soon become poisonous
by taking up a portion of the metal—so says
the Druggists' Circular. If so, why does not
tobacco become poisonous from the same cause
when wrapped in tin-foil?

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS OF Brass, Composition, Zinc, and Babbit Metal
Castings, Brass Ship Work of all kinds, Spikes, Sheathing
Nails, Rudder Braces, Hinges, Ship and Steamboat Belts and
Gears of superior tone. All kinds of Cocks and Valves, Hy-
draulic Pipes and Nozzles, and Hose Couplings and Con-
nections of all sizes and patterns, furnished with dispatch.

PRICES MODERATE. 19v13-ly J. H. WEED.

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Manufacturers of

Marine and Stationary Engines!

Quartz Machinery, Saw, Flour and Sugar Mills, Mining

Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and

Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston

Packing, requires no springs or screws; is always steam-
tight; without excessive friction, and never gets slack or
leaky.

MACHINERY OF ALL DESCRIPTIONS,

Bought, sold, or exchanged. Bolt Cutting and Castings at

the lowest market rates.

6v11-ly **DEVOL, DINSMORE & CO**



JAMES MACKEN,
COPPERSMITH,

No. 226 Fremont st., bet Howard & Folsom

All kinds of COPPER WORK done to order in the best

manner. Particular attention paid to Steamboat, Sugar

House and Distillery work.

Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S

Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,

PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland

navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San

Francisco for the last fourteen years, and enjoys the

reputation of having built ONE HUNDRED AND SEVENTEEN

STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery

generally, made to order, and warranted to give perfect

satisfaction in every particular. 25v12-3m

"CAPPING OUT."—In an answer to the paragraph in the Nevada Gazette, in relation to "ledges capping out," which we quoted in our last week's issue, the Sun says:

It is true that in the rage for locating, which prevailed last year, everything that wore the semblance of croppings was taken up and called a mine. In such instances it has often happened that within a few feet of the surface all indications of a ledge disappeared, but except in one solitary case we have yet to hear of a vein that could be traced down twenty feet which "pinched out."

The Board of Directors of the Agricultural College, passed, at their last meeting, the following among other resolutions: That all questions pertaining to the location of the Agricultural Mining and Mechanical College be postponed until March 13th, 1867. And, that when this meeting adjourns, it adjourn to meet at the Governor's office, in Sacramento, on the 13th day of March, 1867.

It is reported that an inexhaustible bed of valuable white clay has been found on the estate of a Georgian, who has just returned from his exile in the North.

MELLVILLE C. KEITH, M. D.

Homoeopathic Physician,
No. 635 Howard street, between Second and Third,
SAN FRANCISCO.
Devotes special attention to CANCER, PARALYSIS and
CHRONIC DISEASES. Consultation free.
15v13 6m1r

Bell's Assay Office.

THE UNDERSIGNED, HAVING FORMED A COPARTNERSHIP this day, would inform the former patrons and the public generally, that they will continue the ASSAY BUSINESS in all of its branches, at the old stand,
No. 512 California street,

One door west of Montgomery, San Francisco, with the same employees, under the name of Rogers & Brown.
MR. EDWARD WOLLER, for the last seven years Assayer for Mr. Bell, will have charge of the Assay Department.

The Melting Department will be under the charge of MR. HENRY J. FISHER, for ten years in the United States Mint in this city and Philadelphia, and for the past seven years with Mr. Bell.
We would inform Photographers that we are prepared to work their chloride of silver and ashes from their paper clippings.

We have, in connection with our Assay business a Mill, and are prepared to
WORK GOLD AND SILVER ORES,
In quantities from 25 to 500 pounds; also, Assayers' Sweeps.

GEORGE E. ROGERS,
H. W. BROWN
October 13, 1866. 15v13 411pmr

QUINCY HALL CLOTHING EMPORIUM!

545, 547 and 549 Washington street,
(Near Montgomery),
SAN FRANCISCO.

For a Dress Suit,
A Business Suit, or
A Working Suit,
GO TO QUINCY HALL!

For Shirts, Collars, Drawers, Undershirts, Socks,
Ties, Gloves, or any other FURNISHING GOODS,
GO TO QUINCY HALL!

For Hats, Caps, Trunks, Valises and Carpet Bags,
JUST GO TO QUINCY HALL!

If you want a SUIT MADE TO ORDER, of Foreign or
Domestic Cloth,
ALWAYS GO TO QUINCY HALL!

IT IS THE LARGEST AND CHEAPEST CLOTHING
HOUSE IN SAN FRANCISCO.

All Goods Warranted as Represented

—AT—
QUINCY HALL,
Nos. 545, 547 and 549 Washington street,
15v13 3m Next to Montgomery.

HAYWARD, COLEMAN & CO.,

IMPORTERS AND REFINERS

Illuminating, Lubricating, —AND— PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR,
TANNERS', NEATFOOT, BOILED AND RAW
LINSEED, CASTOR AND CHINA NUT.

—ALSO,—

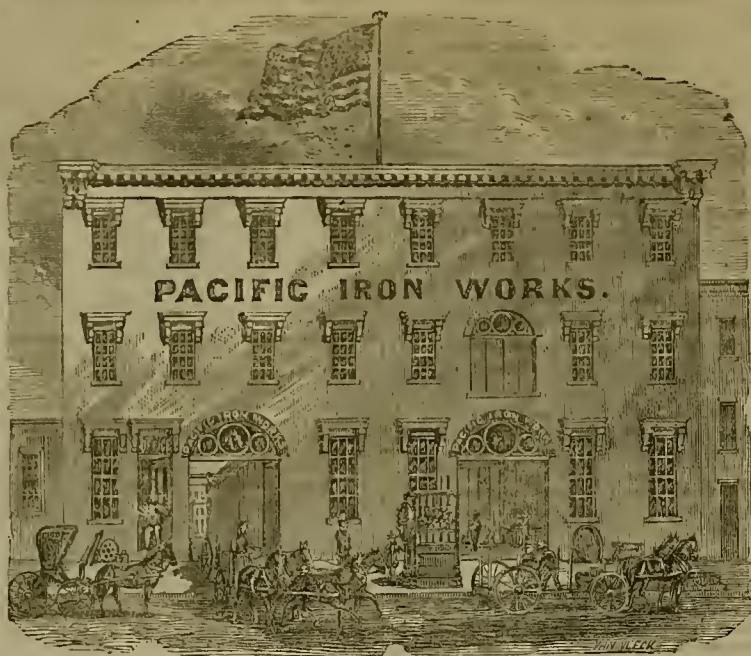
SPIRITS OF TURPENTINE & ALCOHOL

Note.—We would specially call the attention of Mill
owners and Engineers to our superior PARAFFINE OIL,
which we manufacture from the California Petroleum.
This Oil will not gum. Machinery thoroughly cleaned and
lubricated with it will not heat, and after remaining at rest,
can be started without cleaning off.
A sample can of our Paraffine Oil will be forwarded
on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand. 411
413 3m1r 414 Front street, San Francisco.

ELECTROTYPE CUTS, ENGRAVINGS, Etc.—Our Job Printing
office is abundantly supplied with elegant engravings, or-
naments, and other embellishments to suit the various
branches of industry in this State.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and un-
equalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and
pattern. Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw,
and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improve-
ments in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have
secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the
most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amal-
gamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT
order for the accommodation of guests. Persons seeking
comfort and economy will find this the best hotel in
the city to stop at. The Beds are new and in good order,
and the Rooms are well ventilated. The Table will always be
supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for
Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED
TO THE HOUSE.

Teams belonging to the House will be in attendance
at all the boats and cars to convey passengers to the House
FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYOANT, Proprietor.

GOVERNMENT HOUSE,
Corner of Sansome and Washington sts.,
SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN
every direction, every ten minutes.
The rooms of the House are well furnished, large
and airy, and are let by the month, week or day, and are
kept in superb order. There is a Restaurant attached for
ladies and families, where persons can board for one-half
they are required to pay at hotels.
17v13 6m SANBORN & CO.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets,
opposite Steamboat Landing.

Meals, 25 cents.
Board, per week, \$4.00
Board and Lodging, per day, 1.00
Single Rooms, 50
Railroad Ticket Office and Stage Office on first floor.
7v12 3m A. J. SENATZ, Proprietor.

Rheumatism!!

ANOTHER WITNESS!

SALMON FALLS, June 17, 1866.
H. BOWMAN—DEAR SIR: HAVING HAD A PAIR
of test of the virtues of RICHARDS' REMEDY FOR RHEU-
MATISM, I take great pleasure in stating that it has done
me have been even better than its recommendations claim.
In 1863 I first heard of the Medicine. I had then been for
three years severely afflicted with Rheumatism, and hav-
ing tried everything I could hear of, without any perma-
nent benefit, I concluded to try this also.
On taking the medicine, in three days I experienced great
relief, and in one week was entirely free from pain, and had
completely recovered the use of my limbs, which had be-
come almost powerless, so much so that I could not dress
myself without assistance. Since that time I have been
free from Rheumatism. I have recommended RICHARDS'
REMEDY to numerous friends, and in every case it has proved
successful. I therefore take great pleasure in recommending
it to all who are afflicted with Rheumatism, and es-
pecially to all mercurial chronic Rheumatism cases.
Yours respectfully,
(Signed) ERASTUS PARSONS,
President of the Gen. Grant Mining Company.

RICHARDS' REMEDY is for sale by
H. BOWMAN,
Druggist, Sacramento.
Price, \$2.50 per Bottle. 11v13

Important to Californians.—Many inventors have
lately had their claims for Patents seriously (and in some
cases fatally) delayed by the unqualification of agents who
have not complied with the Government license and revenue
laws, as well as other new and imperative regulations.
These discrepancies, although arising from the inexperience
of honest agents, are none the less dangerous to applicants
for patents, whose safest course is to trust their business
with none but active and experienced solicitors. The MIN-
ING AND SCIENTIFIC PRESS PATENT AGENCY has strictly com-
plied with the requisitions of the Department, and properly
filed all necessary papers as Claim Agents.

Pacific Law and Collection Office

W. H. ALLEN,
Attorney and Counsellor at Law,
Principal Office at Rooms 11, 12 and 13 Amory Hall
Building.
502 Montgomery Street, San Francisco, Cal.

Agencies at every City and Town on the Pacific Coast.
Collections guaranteed with or without suit in all the cities
and counties of the Pacific and Atlantic Coasts.

Legal advice will be given free of charge until after
1st January, 1867. Postage on letters asking advice must be
paid both ways. 8v13 3m

REMINGTON'S ARMORY.

Agency, 310 Washington st., San Francisco.

PRICES REDUCED!

These arms have been
preferred by the United
States Government, and
stand unequalled by any
in the world: Revolvers,
Army, Navy, Bolt and
Pocket, Double and Sin-
gle Action; Repeaters,
and vest-pocket Pistols,
with copper ammunition;
Police Revolvers, a new
model, navy size ball, 42
to 6 inch barrel; Rifle
Guns—an entirely new
most perfect Gun. All the new models for sale very
low.
12v13r ALBERT E. CRANE.

RADICAL CURE —OF— RUPTURE!

Treatment of all Deformities of the Body, by DR. A.
FOLLEAU'S process. 624 Washington street, up stairs,
Washington Bldg., between Montgomery and
Kearny streets.

DR. A. FOLLEAU
Has his studies and manufactures in the same building.
Every kind of Apparatus, Trusses, Orthopedic Instru-
ments, Artificial Limbs, etc., are manufactured and applied
by himself.
He has no connection with any Agency. 8v13 1y11p

BROWN & BEADLE,

Offer their services to

INVENTORS AND THEIR ASSIGNEES,

—AS—

PATENT SOLICITORS.

They will make Preliminary Examinations in the Patent
Office, with a view to ascertain the Patentability of any
invention that may be submitted to them for that purpose;
will prepare the necessary papers for those who wish to
make Applications for

Patents for their Inventions,

—OR FOR—

EXTENSIONS OR REISSUES OF PATENTS

Already granted; will act as Attorneys in presenting Ap-
plications at the Patent Office, and in managing them to a
final issue; will draw up Assignments; will examine into the
condition of Rejected Applications when desired to do
so, and undertake the prosecution of such as may be consid-
ered patentable, and do whatever else is usually done by
Patent Solicitors.

Address, P. O. Box 257, Washington, D.C. 7v12 3m

Our Circulation.—THE MINING AND SCIENTIFIC PRESS
has a large and permanent subscription list, and enjoys a
more universal circulation among stockholders and per-
sons directly interested in mining than any other paper on
this coast.

CONNECTICUT

Mutual Life Insurance Co.

The Largest Life Insurance Com-
pany in the World.

ASSETS.....\$12,000,000.

THE CONNECTICUT MUTUAL

IS NOW THE LARGEST AND MOST PROMINENT LIFE
Insurance Company in the world, and it has

The Largest Number of Members,
The Largest Amount Insured,
The Largest Surplus,
The Largest Business,
The Largest Income,

And as it obtains the LARGEST average rate of interest on
its investments, and has had, through its whole history,
the SMALLEST average expenses, it therefore affords in-
surance at LESS COST than any other Company.

The surplus premium (dividend) returned to Policy
Holders during the current year is SIXTY PER CENT. of
the premiums paid during the year ending 31st of January,
1868.

Insurance can be effected in this Company in all the
forms desired, and to meet all the contingencies to which
Life Insurance is applicable, among which forms are—
Whole Life Policies, by a continued annual life
premium.

Whole Life Policies, by TEN annual premiums.
Endowment Policies, by a continued annual
premium.

Endowment Policies, by a limited annual pre-
mium, for FIVE, TEN, FIFTEEN or TWENTY years.

Endowment Policies, made payable at any age
stipulated.

ALL POLICIES issued by this Company are either un-
forfeitable by their terms, or may be converted into those
which are so, at the option of the insured.

This Company offers all the advantages of a CASH or
NOTE Company. The assured are not required to give a
note in part payment of the premium, but may, if prefer-
red, pay the first four premiums in cash after which their
dividends on Annual Premium Life, and Continued Pre-
mium Endowment Policies, will, if the past success of the
Company is continued, reduce their premiums ONE HALF.
When notes are given for Annual Life and Continued En-
dowment Premiums, no notes will be required after the
fourth payment, and the returned surplus—dividends—
will be applied as cash to the reduction of the annual
premium.

None but Unexceptional Risks Accepted; and
only upon ages between Fourteen and Sixty.

DIRECTORS:

JAMES GOODWIN, HENRY C. ROBINSON,
GEORGE S. GILMAN, GUY R. PHELPS,
MARCUS F. HOLMES, E. D. TIFFANY,
New York, CHARLES F. THAYER,
N. M. WATERMAN, JOHN C. PALMER,
E. B. WATKINSON, Boston,
Z. PRESTON, THOMAS Sisson.

GUY R. PHELPS, President.
Z. PRESTON, Vice-President.
W. S. OLMSTEAD, Secretary.
O. W. POWERS, Actuary.

A. D. SMITH & CO.,

General Agents Pacific Coast.
Office, N. W. corner Montgomery and Sacramento streets,
San Francisco. 15v13 p11

Accidental Insurance!

The Accidental Insurance Company

OF NEW YORK,

ISSUES POLICIES INSURING AGAINST INJURIES OF
all kinds, and death resulting from accident.

In case death does not result from the injury, the insured
receives a weekly compensation, as long as he is disabled
(not to exceed twenty-six weeks).

ONE YEAR POLICIES.

\$5 will buy Policy for \$1,000, with weekly compensa-
tion of \$5.

\$10 will buy Policy for \$2,000, with weekly compensa-
tion of \$10.

\$50 will buy Policy for \$10,000, with weekly compen-
sation of \$50.

SHORT TERM POLICIES.

Policies will also be issued for any other amounts within
the limits before stated, for periods of one to six months,
at rates in tents of the Annual rate, as follows:

1 month, 2-10.	4 months, 5-10.
2 " 3-10.	5 " 6-10.
3 " 4-10.	6 " 7-10.

GENERAL ACCIDENT TICKETS.

This Company also issues Tickets which are sold by
many of its Agents at Hotels and Ticket Offices through-
out the country.

They make Insurance for \$5,000, and \$25 per week com-
pensation, against Accident of every description, Traveling
or otherwise; good for one to six days, as required, at
TWENTY-FIVE CENTS PER DAY.

They are not simply Travelers' Insurance Tickets which
cover only injury or death, the result of an "Accident to
the Public conveyance in which the insured may at the
time be traveling," but they are GENERAL ACCIDENT
TICKETS.

SEA VOYAGE POLICIES

Are issued, covering the risks of travel to European and
other Ports. Rates varying with the season, and the voy-
age to be taken. Information can be had of the Company
or its Agents.

The Company has PAID UP CASH CAPITAL OF
\$250,000. One hundred thousand dollars deposited with
Wm. Havens, Esq., Superintendent of the Insurance Depart-
ment of the State of New York, and the remainder securely
invested in Stocks in the hands of the Company.

INDUCEMENTS.

The rates of Premium are very low.
The Plan is so simple that any one can comprehend all
its workings.

NO MEDICAL EXAMINATION IS REQUIRED, and those who
have been rejected by Life Companies, in consequence of
hereditary or other diseases, can effect Insurance in this
Company at a very small cost.

No better or more satisfactory use can be made of so
small a sum.

For Policies or further information, apply to

A. D. SMITH & CO.,

General Agents for the Pacific Coast.
Office, N. W. corner Montgomery and Sacramento streets,
San Francisco. 15v13

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.
BARTLING & KIMBALL,
BOOKBINDERS,
 Paper Rulers and Blank Book Manufacturers.
 505 Clay street, (southwest cor. Sansome),
 15v12-3m SAN FRANCISCO.

JOHN DANIEL,
 (Successor to O. GORI)
MARBLE WORKS,
 No. 421 Pine st. bet. Montgomery and Kearny, San Francisco
Monuments, Monuments, Tombs, Plasters Slabs
 Etc., On hand and Manufactured to order.
 Goods shipped to all parts of the State. Orders re
 spectfully solicited. 5v8-3m

NATHANIEL GRAY,
 General Furnishing Undertaker,
 611 Sacramento St., corner of Webb, San Francisco.
Barstow's Metallic Barial Caskets and Cases.
 11v

THEODORE KALLENBERG,
 Maker of Models for Inventors.
MACHINES, MATHEMATICAL, OPTICAL AND PHIL-
OSOPHICAL Instruments, Scales, Weights, etc. Steel
Stamps, Dies and Die Stamping, Engraving, Repair
ing of machinery promptly attended to.
 No. 418 Market street, San Francisco. 11v-1f

Palmer's Patent
ARTIFICIAL LEG,
 Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
 629 Washington Street, San Francisco, Cal. 10v8-1m

HUCKS & LAMBERT,
 SOLE MANUFACTURERS OF THE CELEBRATED
H. & L. AXLE GREASE,
 Natoma Street and North Beach,
 2v13-3m SAN FRANCISCO.

F. M. TRUWORTHY,
STENCIL PLATE CUTTER,
 —AND—
BRAND MANUFACTURER,
 No. 321 Front street, corner of Commercial,
 SAN FRANCISCO.

Names for Marking Linen, Brushes, Ink and Marking
Pots for sale. 9v13-3m
LEATHER HOSE AND BELTING,
ALL SIZES.
SUCTION HOSE MADE TO ORDER
 At short notice, by
M. M. COOK & SON,
 No. 801 Battery street,
 13v13-3m SAN FRANCISCO.

Empire Sewing Machine Company.
 Principal Office, 616 Broadway, New York.
GREAT IMPROVEMENT IN SEWING MACHINES.
 Empire Shuttle, Crank Motion Sewing Machine. It is
 thus rendered noiseless in action. Its motion being all pos-
 itive, it is not liable to get out of order. It is the best Fam-
 ily Machine! Notice is called to our new and improved
 Manufacturing Machine, for Tailors and Boot and Shoe
 Fitters. Agents wanted, to whom a liberal discount will be
 given. No commissions made.
EMPIRE SEWING MACHINE COMPANY.
 7v13-5w

LEAD PIPE,
SHEET LEAD,
DROP AND BUCK SHOT
MINNIE BALLS, BAR LEAD, ETC.,
 Are now manufactured at the
SAN FRANCISCO AND PACIFIC
Lead Pipe and Shot Works,
 Coraer Howard and First streets,
 SAN FRANCISCO.

Every article made at the above Works is WARRANTED
 PERFECT, and made of pure, soft, refined LEAD. Orders
 can be sent direct to the Factory, or to the subscribers.
THOS. H. SELBY & CO.,
 1116 and 1118 California street.
 13v13-3m

McNALLY & HAWKINS,
Plumbers and Gas-Fitters,
 No. 645 Market street,
 Adjoining R. C. Orphan Asylum, nearly opp. Monty street,
 SAN FRANCISCO.
BUILDINGS FITTED UP WITH GAS,
 WATER AND STEAM PIPES, and all work Warranted.
 Have constantly on hand an assortment of Gas-Fixtures,
 Lead and Iron Pipes, Marble Slabs, etc.
 13v13-2q

Professional Cards.

WILLIAM P. BLAKE,
MINING ENGINEER,
 Will make Surveys and Examinations of Mines, or give
 advice regarding their working, the erection of Ma-
 chinery, etc.
 Office at Union Iron Works, corner of First and Mission
 sts., or Lock Box 2,077 Post Office, San Francisco.
 11v22q

SHERMAN DAY,
Mining Engineer,
 No. 57 Montgomery Block, San Francisco.
 Will examine, survey and report upon mines, and consult
 and advise concerning investments in mining property, or
 the machinery management and expenditures of mines.
 22q

FREDERICK MANSELL,
Mechanical & Architectural Draughtsman,
 No. 422 California street, corner of Leidesdorff.
 Drawings of MODELS made for parties applying for pa-
 ents at Washington or London. mar23-tf

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
 COURT COMMISSIONER, appointed by the Fourth District
 Court, COMMISSIONER OF DEEDS for Nevada
 and Massachusetts.
Court Block, San Francisco.
 Entrances opposite City Hall, Merchant street, and 636
 14v11q Clay street.

DR. H. AUSTIN,
DENTIST,
 No. 634 Washington Street,
 Between Montgomery and Kearny Streets
 [OVER SAN FRANCISCO BATHS]
 SAN FRANCISCO. 20v10-qy

DR. D. R. BECKFORD,
OCULIST,
 Office of Dr. Beckford's "Golden Eye Water,"
 16v12-3m NO. 719 CLAY STREET.

AUGUST KUNAST,
Stock Broker,
 Member of the
San Francisco Stock and Exchange Board,
 Buys and Sells Stocks, Bonds, Etc.
 Office, No. 540 Washington Street, San Francisco. 2v10

GEORGE H. BAKER,
Lithographer & Engraver,
 No. 522 Montgomery St., San Francisco.
 MINING STOCK CERTIFICATES LITHOGRAPHED
 IN MOST ARTISTIC STYLE. CALL AND
 EXAMINE SPECIMENS.
 10v8-1f

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 MADE BY
MESSRS. CHALMERS & WOLFE,
 611 Clay street, San Francisco.
 Are the best made in the city. An examination of their
 specimens before going elsewhere, will prove the truth of
 the above assertion. Prices—the lowest adopted by the
 Association of Artists. Remember the place, 611 Clay
 street. 11v13-2m

Pacific Mining Agency.
ALMARIN B. PAUL,
 N. E. cor. California and Kearny sts., ap'ls, 1st fl.,
 14v13-1m SAN FRANCISCO.

Pacific Mail Steamship Co's
THROUGH LINE TO NEW YORK,
Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11
 o'clock A. M. of the following dates, for
 PANAMA, connecting via Panama Railroad, with one of
 the Company's splendid steamers from ASPINWALL for
 NEW YORK.
 On the 10th, 18th and 30th of each month that has
 30 days.
 On the 10th, 18th and 30th of each month that has
 31 days.
 When the 10th, 18th and 30th fall on Sunday, they will
 leave on Saturday preceding; when the 18th falls on Sun-
 day, they will leave on Monday following.
 Steamer leaving San Francisco on the 10th touches at
 Manzanillo. All touch at Acapulco, Capt. Howes.
 Departures of 18th or 19th connect with French Trans-
 Atlantic Co.'s steamer for St. Nazaire, and English steamer
 for South America.
 Departure of 10th connects with English steamer for
 Southampton, and P. R. Co.'s steamer for Central
 America.
 Departure of the 30th connects with English steamer for
 unaco, the port of the new mines.
 The following Steamships will be dispatched on dates as
 given below:
 November 10th—CONSTITUTION, Capt. E. S. Farnsworth
 Connecting with ARIZONA, Capt. Maury.
 November 19th—GOLDEN AGE, Capt. W. F. Lapidge
 Connecting with HENRY CHAUNCEY, Capt. Gray.
 November 30th—GOLDEN CITY, Capt. Jas. T. Watkins
 Connecting with OCEAN QUEEN, Capt. Howes.
 Cabin passengers berthed through. Baggage checked
 through—100 pounds allowed each adult.
 An experienced Surgeon on board. Medicine and attend-
 ance free.
 These steamers will positively sail at 11 o'clock. Passen-
 gers are requested to have their baggage on board before 10
 o'clock.
 Through Tickets for Liverpool by the Inman Line, can
 be obtained at office P. M. S. R. Co., San Francisco.
 For Merchandise and Freight apply to Messrs. WELLS,
 FARGO & CO.
 The splendid steamship COLORADO will be dis-
 patched for CHINA on TUESDAY, January 1, 1887.
 For passage and all other information, apply at the Pa-
 cific Mail Steamship Co's office, corner of Sacramento and
 Leidesdorff streets.
OLIVER ELDRIDGE, Agent.

Illegal Supplemental Advertising.—It
 would be well for Mining Companies, whose advertis-
 ements are repeatedly appearing in the Supplements of
 daily papers, to inquire into the legality of that class of
 advertising.

THE MINING AND SCIENTIFIC PRESS, published by Dewey
 & Co., San Francisco, should be in the hands of every
 miner. It gives every week information that is indispen-
 sable to the proper prosecution of mining. Every miner
 can avail himself of the latest improvements by subscrib-
 ing for it.—[Havilah Courier, Oct 13.]

New Mining Advertisements.

Chaparral Hill Gold and Silver Mining Com-
pany, Albany Flat or Hill District, Calaveras County,
California.
 Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the seventh day of
 November, 1886, an assessment of fifteen cents (15) per share
 was levied upon the capital stock of said Company, payable
 on the fifteenth day of November, 1886, in United States
 gold and silver coin, to the Secretary, A. de SENAIGHAC,
 at the Company's office, 606 Montgomery street, San Fran-
 cisco, Cal.

Any stock upon which said assessment shall remain un-
 paid on the tenth day of December, 1886, shall be
 deemed delinquent, and will be duly advertised for sale
 at public auction, and unless payment shall be made before,
 will be sold on Monday, the thirty-first day of December,
 1886, to pay the delinquent assessment, together with
 costs of advertising and expenses of sale. By order of the
 Board of Trustees. A. de SENAIGHAC, Secretary.
 Office, 606 Montgomery street, San Francisco. no10

Colorado Silver and Copper Mining Company.
 Notice.—The Annual Meeting of the stockholders of the
 Colorado Silver and Copper Mining Company, will be held
 at the Company's office, No. 528 Clay street, San Francisco,
 on MONDAY, December 24th, 1886, at 8 o'clock P. M., for the
 election of Trustees, and the transaction of such other bus-
 iness as may properly come before it.
 no10-4w B. W. MUDOE, Secretary.

Del Norte Constock Company, Low Divide
District, Del Norte County, California.
 Notice is hereby given, that the Annual Meeting of the
 shareholders of the above named Company will be held on
 MONDAY, the third day of December, 1886, at 7 1/2 o'clock
 P. M., at the office of the Company, No. 331 Montgome-
 ry street, San Francisco, for the election of Trustees to serve
 the ensuing year, and for the transaction of other business.
 R. N. VAN BRUNT, Secretary.
 San Francisco, November 15, 1886. no10

Great Central Mining Company.—Location of
Works: Yuma County, Arizona Territory.
 Notice.—There are delinquent upon the following de-
 scribed stock, on account of assessment levied on the
 fifteenth day of October, 1886, the several amounts set op-
 posite the names of the respective shareholders, as fol-
 lows:

Names.	No. Certificate.	No. Shares.	Amount.
Brokaw James.....	169	20	\$20 00
Brokaw James.....	185	75	75 00
Callison P.....	189	10	10 00
Carman Wm.....	262	100	100 00
Carman Wm.....	285	500	500 00
Collins John W.....	271	50	50 00
Collins John W.....	285	150	150 00
Hyde Henry C.....	8	5	5 00
Hyde Henry C.....	9	10	10 00
Hyde Henry C.....	10	10	10 00
Livingston H B.....	124	20	20 00
Washburn E H.....	273	8	8 00
Washburn E H.....	281	50	50 00
Wheaton Wm R.....	133	25	25 00
Wheaton Wm R.....	220	20	20 00
Wheaton Wm R.....	283	20	20 00
Wheaton Geo H.....	240	50	50 00
Wheaton Geo H.....	282	40	40 00

And in accordance with law, and an order of the Board
 of Trustees, made on the fifteenth day of October, 1886, so
 many shares of each parcel of said stock as may be ne-
 cessary, will be sold at public auction, at the salesroom of
 Messrs. Olney & Co., at No. 418 Montgomery street, San Fran-
 cisco, Cal., on the third day of December, 1886, at the hour
 of four (4) o'clock P. M. of said day, to pay said delinquent
 assessment thereon, together with costs of advertising and
 expenses of sale. O. D. SQUIRE, Secretary.
 Office, No. 302 Montgomery street. no17

Mineral Mountain Gold and Silver Mining
Company, Carson's Flat or Hill District, Calaveras Coun-
ty, California.
 Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the eighth day of No-
 vember, 1886, an assessment of ten cents (10) per share was
 levied upon the capital stock of the said Company, payable
 on the fifteenth day of November, 1886, in United States
 gold and silver coin, to the Secretary, A. de SENAIGHAC,
 at the Company's office, 606 Montgomery street, San Fran-
 cisco, Cal.

Any stock upon which said assessment shall remain un-
 paid on the tenth day of December, 1886, shall be
 deemed delinquent, and will be duly advertised for sale at public
 auction, and unless payment shall be made before, will be sold
 on Monday, the thirty-first day of December, 1886,
 to pay the delinquent assessment, together with costs of
 advertising and expenses of sale. By order of the Board of
 Trustees. A. de SENAIGHAC, Secretary.
 Office, 606 Montgomery street, San Francisco. no10

North San Francisco Homestead and Railroad
Association, at the City and County of San Francisco, Cal.

Notice.—There are delinquent upon the following de-
 scribed stock, on account of assessment levied on the
 eleventh day of October, 1886, the several amounts set op-
 posite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
B F Moulton.....	20	250 00	
B F Moulton.....	95	3	100 00
B F Moulton.....	192	50	625 00
B F Moulton.....	194	50	625 00
J D Farnsworth.....	165	100	1000 00
J D Farnsworth.....	175	197	2462 50
Caleb T Fay.....	3	66 2/3	833 33
Caleb T Fay.....	108	8	100 00
E L Smith.....	35	3	37 50
Richard Brown.....	36	1	12 50
Richard Brown.....	37	1	12 50
Richard Brown.....	38	1	12 50
Richard Brown.....	39	1	12 50
Richard Brown.....	46	1	12 50
Richard Brown.....	47	1	12 50
Richard Brown.....	48	1	12 50
Richard Brown.....	49	1	12 50
Richard Brown.....	50	1	12 50
Richard Brown.....	51	1	12 50
Richard Brown.....	52	1	12 50
Richard Brown.....	53	1	12 50
Richard Brown.....	54	1	12 50
Richard Brown.....	55	2	25 00
Richard Brown.....	56	2	25 00
Richard Brown.....	57	2	25 00
Richard Brown.....	58	2	25 00
Richard Brown.....	59	2	25 00
Richard Brown.....	60	2	25 00
Richard Brown.....	61	2	25 00
Richard Brown.....	62	2	25 00
Richard Brown.....	63	2	25 00
Richard Brown.....	64	2	25 00
Richard Brown.....	65	2	25 00
Richard Brown.....	66	2	25 00
Richard Brown.....	67	2	25 00
Richard Brown.....	68	2	25 00
Richard Brown.....	69	2	25 00
Richard Brown.....	70	2	25 00
Richard Brown.....	71	2	25 00
Richard Brown.....	72	2	25 00
Richard Brown.....	73	2	25 00
Richard Brown.....	74	2	25 00
Richard Brown.....	75	2	25 00
Richard Brown.....	76	2	25 00
Richard Brown.....	77	2	25 00
Richard Brown.....	78	2	25 00
Richard Brown.....	79	2	25 00
Richard Brown.....	80	2	25 00
Richard Brown.....	81	2	25 00
Richard Brown.....	82	2	25 00
Richard Brown.....	83	2	25 00
Richard Brown.....	84	2	25 00
Richard Brown.....	85	2	25 00
Richard Brown.....	86	2	25 00
Richard Brown.....	87	2	25 00
Richard Brown.....	88	2	25 00
Richard Brown.....	89	2	25 00
Richard Brown.....	90	2	25 00
Richard Brown.....	91	2	25 00

Names.	No. Certificate.	No. Shares.	Amount.
J W Stewart.....	93	80	375 00
Prosper Huernie.....	98	2	25 00
Prosper Huernie.....	99	2	25 00
Prosper Huernie.....	100	2 1/2	33 33
Nicholas Loring.....	105	100	1250 00
George Hudson.....	107	65 1/2	687 50
George Hudson.....	144	6 1/2	83 33
George Hudson.....	214	35	475 00
George Hudson.....	215	60	625 00
George Hudson.....	216	60	625 00
George Hudson.....	217	60	625 00
George Hudson.....	218	60	625 00
Mrs Harmony Post.....	8	5 1/2	62 50
M Spence.....	114	5	62 50
M M Richardson.....	116	2	25 00
V P Hale.....	151	1	12 50
Geo C Hickox.....	110	15 1/2	200 00
Geo C Hickox.....	120	52	650 00
Jno O Klumpke.....	145	20	250 00
Jno O Klumpke.....	122	20	250 00
Jno G Klumpke.....	125	10	125 00
Jno G Klumpke.....	143	30	375 00
Jno G Klumpke.....	145	20	250 00
V P Hale.....	151	50	625 00
W F Hale.....	210	41	512 50
W F Hale.....	211	25	312 50
Alonso Young.....	133	10	125 00
R Beyer.....	145	30	375 00
Emil Grisar.....	147	8	100 00
Emil Grisar.....	148	12	150 00
Emil Grisar.....	149	14	175 00
Emil Grisar.....	150	20	250 00
Emil Grisar.....	151	20	250 00
Emil Grisar.....	152	20	250 00
Emil Grisar.....	153	20	250 00
Geo H Ensign.....	155	63 1/2	791 25
Geo H Ensign.....	179	394	4925 00
Chas Lepreux.....	154	5	62 50
Ben Dore.....	160	14	175 00
Ben Dore.....	161	14	175 00
Ben Dore.....	199	40	500 00
Ben Dore.....	162	2	25 00
Ben Dore.....	163	1	12 50
J P H Wentworth.....	155	70	875 00
Delos Lake.....	177	99	1237 50
O Simmons.....	183	50	625 00
O Simmons.....	184	50	625 00
O Simmons.....	185	50	625 00
O Simmons.....	186	50	625 00
O Simmons.....	187	50	625 00
O Simmons.....	188	50	625 00
O Simmons.....	189	50	625 00
O Simmons.....	190	50	625 00
O Simmons.....	191	50	625 00
H P Love.....	209	325	4062 50
Wm A Piper.....	201	47	587 50
Chas H Simpkins.....	203	200 1/2	2502 50
D O McFarthy.....	205	12	150 00
Ez Wilson.....	204	16	137 50
Chas de Ro.....	206	23	287 50
Henry Baker.....	207	2	25 00
Isaac Rowell.....	208	40	500 00
Isaac Rowell.....	219	10	125 00
Livy K Baker.....	212	8	100 00
Estate of E Daniels.....	220	10	125 00

And in accordance with law, and an order of the Board of
 Trustees, may on the eleventh day of October, 1886, so many
 shares of each parcel of said stock as may be necessary,
 will be sold at public auction, at the auction rooms of
 Maurice Dore & Co., No. 327 Montgomery street, San Fran-
 cisco, California, on Wednesday, the twelfth day of De-
 cember, 1886, at the hour of 12 o'clock M., of said day, to
 pay said delinquent assessment thereon, together with costs
 of advertising and expenses of sale. GEO. W. KINNEY, Secretary.
 Office, No. 7 Montgomery Block, San Francisco, no37

Mining Notices--Continued.

Adella Gold Mining Company, Rock Creek,
Sierra County, California.

Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the nineteenth day of
 October, 1886, an assessment of one (\$1) dollar per share
 was levied upon the capital stock of said Company, pay-
 able immediately. In gold coin, to the Secretary, at 410
 Market street, San Francisco, Cal.
 Any stock upon which said assessment shall remain un-
 paid on the twenty-fourth day of November, 1886, shall be
 deemed delinquent, and

Ophir Silver Mining Company—Location of
Works, Virginia District, Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of October, 1866, an assessment of six dollars (\$6) per share was levied upon the capital stock of said company, payable

October nineteenth, in United States gold coin, to the Secretary, at the Company's office, No. 402 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1866, shall be deemed delinquent, and all such stock shall be authorised for sale at public auction, and unless payment shall be made before, the stock shall be sold on the tenth (10th) day of December, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

THOS. J. LAMR, Secretary.

Office, 402 Montgomery street. oc20

Office of the Ophir of the Colorado Silver Mining

ANNUAL MEETING.—The Annual Meeting of the Opblr of the

the Secretary, No. 528 Clay street, San Francisco, at 4 o'clock P. M., MONDAY, the 19th day of November, 1866, for the election of officers and the transaction of business.

Providence Gold and Silver Mining Company
Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of October, 1866, an assessment of two dollars (\$2) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of November, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before the same will be sold on Saturday, the eighth day of December, 1866, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BEFFINGTON, Secretary.
Office, No. 10 Government House, corner Washington and Sansome streets, San Francisco, California.

San Francisco, October 19, 1866. oc20
Salamanca Gold and Silver Mining Company
 Leon Ranch District, Calaveras County, California.
 Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the nineteenth day of
 October, 1866, an assessment (No. 0) of twenty cents per
 share was levied upon the capital stock of said Company,
 payable immediately, in United States gold and silver coin,
 to the Secretary, E. J. Perzner, at the Office, No. 210
 Post Street, San Francisco, Cal.
 Any stock upon which said assessment shall remain un-
 paid on the twenty-fourth day of November, 1866, shall be

at public auction, and unless payment shall be made before, will be sold on Wednesday, the nineteenth day of December, 1896, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary.
Office, No. 210 Poststreet, San Francisco, Cal. oc27

San Marcel Silver Mining Company.—Location of Works: San Marcel, District of Hermosillo, State of Sonora, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-seventh day of August, 1866, the several amounts set op

Names.	No. Certificate.	No. Shares.	Amount
Clark L S.....	318	1	\$ 1 00
Clark L S.....	322	9	9 00

Fargo C F	350	125	125 00
Keesing B	296	60	60 00
Keesing B	307	100	100 00
Keesing B	312	63	63 00
Keesing B	316	30	30 00
Keesing B	341	125	125 00
Murley S S	92	500	500 00
Murley S S	94	100	100 00
Murley S S	115	60	60 00
Murley S S	203	5	5 00
Murley S S	259	100	100 00
Murley S S	310	40	40 00
Murley S S	320	25	25 00
McCauley John F	357	800	800 00
Nicholson John J	102	3	3 00
Nicholson John J	213	2	2 00
Nicholson John J	306	4	4 00
White & Co J	373	947	947 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-seventh day of August, 1866, so many shares of each parcel of said stock as may be necessary

will be sold at public auction, at the salesrooms of Maurice Dore & Co., 327 Montgomery street, San Francisco California.

on Wednesday, the twenty-first day of November, 1866, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary,
Office, 331 Montgomery street, San Francisco. ce20

Santa Cruz Petroleum Oil Works Company.
—Location: Santa Cruz County, State of California.

Notice.—There are delinquent, upon the following de-
scribed stock, on account of assessment (No. 17) levied on
the second day of October, 1866, the several amounts set
opposite the names of the respective shareholders, as fol-
lows:

Names.	No. Certificate.	No. Shares.	Amount.
Fell William.....	1-333	20	\$25 00
Josselyn Dr. J. H.....	238	20	10 00
Jones Mrs M L.....	630	50	25 00
Reed H R.....	730	25	12 50
Smith George L.....	269	10	5 00
Smith George L.....	769	20	10 00
Slocum W N.....	450	62	26 00
Thibault W H.....	732	50	10 00
Winslow E H.....	764	300	150 00

And in accordance with law, and an order of the Board
of Trustees, made on the second day of October, 1866, no
many shares of each parcel of said stock as may be neces-
sary, will be sold at public auction, by Cobb & Sinton, 407
California street, San Francisco, Cal., on Tuesday, the
twenty-seventh day of November, 1866, at the hour of one
o'clock, P. M. of said day, to pay said delinquent assess-
ment thereon, together with costs of advertising and ex-
penses of sale.

R. WEGENER, Secretary,
Office, 416 Montgomery street, San Francisco, Cal. nol0

Tuolumne Land and Silver Mining
Company, Old-Ranchman Lodge, Tuolumne County, State

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of November, 1866, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, Room 22 Court Block, No. 630 Clay street, San Francisco, Cal.

And upon which said assessment, the shareholders unpaid on the 15th day of December, 1866, shall be deemed delin-

quent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of December, 1866 to

on Monday, the thirty-first day of December, 1892, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of

Office, Room No. 22 Court Block, 636 Clay street (up stairs),
San Francisco, California. no10

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be sent in as early as possible.

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Müller; C, Legs; D, Cross-Framework; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective millers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the miller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been burned. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

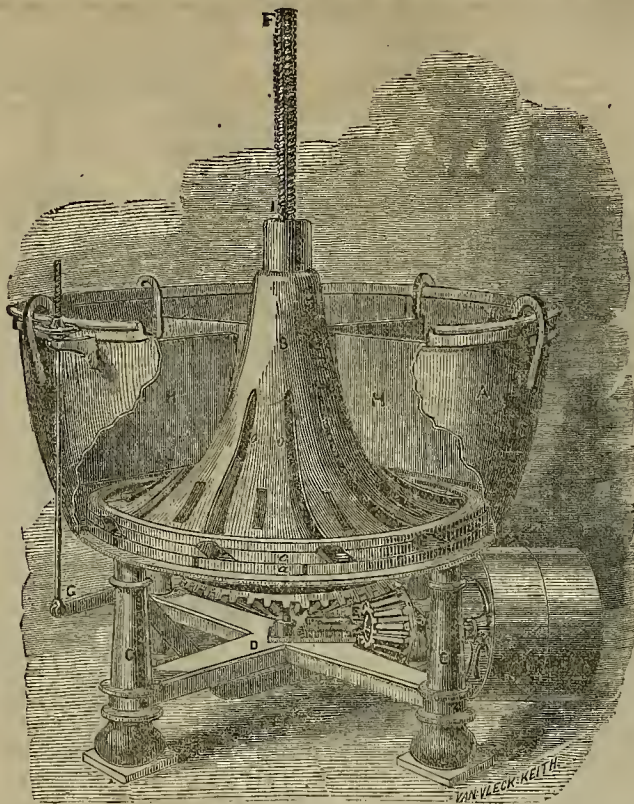
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits. They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

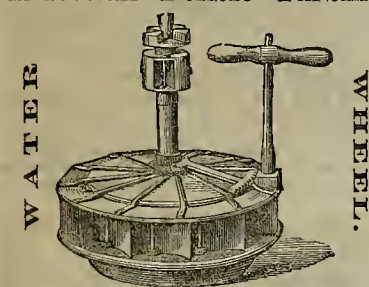
This Amalgamator Operates as Follows:

The pan being filled, the motion of the miller forces the pulp to the center, where it is drawn down through the aperture, and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
- PACIFIC FOUNDRY, San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 80 feet fall. Let us know how much water you have either in miller's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to
- KNAPP & GRANT, San Francisco.

Leffel's Lever Jacks, For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by
- KNAPP & GRANT, San Francisco.

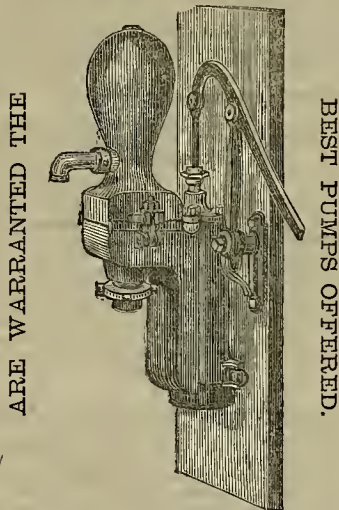
Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG, 87-13-15 Stove Store, No. 125 Clay street, below Davis.

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict confidence with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

The Hansbrow Pumps



All Sizes, for any Purpose,
FOR SALE BY
LOCKE & MONTAGUE,

112 and 114 Battery Street,
SAN FRANCISCO.
16v13-2m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulfurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,
416 Market street, San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

114 Beale Street, San Francisco.
23v12 3m

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery
OF ALL KINDS.

Especial attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. P. Low; Coffey & Risdon, San Francisco; G. T. Mosder, Stockton; Geo. K. Gluyas, Chief Engineer of Cal. S. Nav. Co., San Francisco; Jacob Underhill & Co., San Francisco; J. W. Stove, Russell & Erwin Manufacturing Company; Office, No. 120 Front street, San Francisco. 4v12

FOR SALE!

QUARTZ AND MINING MACHINERY.

ONE GARDNER'S THUNDERBOLT CRUSHER, LARGEST size and best quality; is entirely new, with all extras—with a large lot of other Quartz Machinery, including Engines, Boilers, etc. 16v13

COFFEY & RISDON.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by
THOMAS H. SELBY & CO., Nos. 116 and 118 California street

HYDRAULIC HOSE MANUFACTORY.

THREE SEAMS SEWED WITH TWENTY-PLY TWINE, and guaranteed to stand the pressure of 100 to 200 feet fall. One to three-ply Hose made. All orders punctually attended to.

S. HOWARD,
325 Davis street, San Francisco.

THOMAS' Rock Drilling Machine!

Patent Right for Sale.

I WILL OFFER FOR SALE, UNTIL THE SEVENTEENTH day of November, 1866, the Patent Right of a new and effective Drill.

FOR DRILLING SLATE BED ROCK, And other similar kinds of rock. There is a large amount of rock tunneled in California, for which this Drill is just the thing that is needed.

The Patent papers (dated August 7th, 1866) can be seen by parties interested. A working size machine, now being constructed, will be ready for exhibition in a few days. Address the subscriber at the Office of the MINING AND SCIENTIFIC PRESS, or call on me at the same place, 505 Clay street, between three and four o'clock, P. M.

R. A. THOMAS, Inventor and Patentee. 19v13
San Francisco, November 10th, 1866.

THE BESSEMER AND MUSHET CONTROVERSY.

In our issue of Nov. 3d, in the course of an article on the "Progress in Iron and Steel Manufacture," we alluded to the claim which Mr. Robert Mushet had set up on moral grounds, to remuneration from Mr. Bessemer, for the use of his "spiegeleisen" invention. The unfortunate "lapse" of his patent right through the negligence of the trustees in charge, had of course barred all legal claims. The summing up of the newspaper controversy, and the present position of the parties, will be made apparent by a few extracts from two long communications to the London Mining Journal, of recent dates; one of which, in the number for Sept. 8th, is from the pen of Mr. Mushet, the other, in that of Sept. 22d, from that of Mr. Bessemer. Mr. Mushet says:

"Mr. Bessemer seems to be under the impression that I wished to claim the use of manganese generally and exclusively in the manufacture of steel. I had no such wish, being well aware that the use of manganese in the manufacture of steel had been more or less adopted for upwards of half a century before the date of my patent. What I claimed was simply this: The addition of melted spiegeleisen to melted pneumatically cast iron; in other words, a novel and useful application of a known substance to a novel method of manufacturing iron and steel. Mr. Bessemer also appears to think that my patent was taken out with a design to crush and cripple the progress of his own invention. So far was this from being my wish or intention, that one chief object I had in view was the speedy development of Mr. Bessemer's process, which I well knew was the greatest metallurgical invention of modern times. * * I was about the only one who appreciated and defended Mr. Bessemer's invention from the unsparing ridicule which many, who ought to have known better, were not slow to heap upon it. In short, Mr. Bessemer struggling with difficulties was one individual, and Mr. Bessemer as the successful inventor is now viewed in a very different light. * * I cannot but think, that when he has well weighed the matter, he will come to the conclusion that I have a strong moral claim to receive some pecuniary acknowledgment," etc., etc.

Mr. Bessemer, in his communication, declares that the whole thing was a scheme concocted between Mushet and a Mr. Brown, to obstruct the practical development of his invention, by depriving him of the use of manganese even by the old and well known methods; with the view of inducing him to buy off the conspirators. He says that "the genuine inventor knows, to his cost, that horrid parasite, the 'speculative patentee,' a character, who, though without any originality, has nevertheless a capacity of readily appreciating a novel and valuable invention; and who, upon the appearance of such an one, sets to work to patent everything that may obstruct its progress, and then quietly waits to be bought off." Mr. Bessemer further says, that having become convinced that Mr. Mushet's patent possessed so little novelty, and was so far anticipated by his own patent, that it could not be sustained, he had commenced to make use of spiegeleisen before the lapse of right referred to; having resolved deliberately to do so after consulting eminent counsel. He therefore utterly repudiates and denies that even the shadow of a moral claim, exists against him on the part of Mr. Mushet. In alluding to certain attempts which have been made by the friends of Mr. Mushet, to influence him by threats of expensive litigation, he simply remarks that if any persons should be unwise enough to undertake the repeal of his patents, they will find him prepared with sufficient means and sufficient evidence to carry his cause successfully through every court in England up to the House of Lords.

He closes with these words: "I must now take a final leave of this most unpleasant subject. I have no ill-will for Mr. Mushet, but I feel neither respect nor friendship for him. The world is wide enough for both of us, and I think it would be well for him to allow a subject to rest, the discussion of which can neither bring him honor nor profit."

ECONOMICAL SIEVES.—A very convenient and economical sieve for sifting dry powders may be made, by taking a piece of stiff white paper and punching it with a needle—the size of the needle, of course, determining the fineness of the sieve. It may be secured to a drum in the ordinary manner of fixing a sieve. Where extreme fineness is required, such a sieve will often be found very convenient and cheap.

Brevities.

A MINERS' and Mechanics' Institute is talked of for Colorado.

RAILROAD communication between the Black Sea and the Baltic will be complete within a year.

SPLENDID long staple, silky cotton is being raised in the Sandwich Islands by Henry J. Whitney.

STRAW PAPER is now worth \$3.50 per ream. Some of the large paper mills in the Atlantic States have ceased to manufacture anything else.

HOUSES eleven stories in height are now being built in Paris. Platforms ascend and descend every minute, and furnish the means of communication between the different stories. There are no stairs.

A MECHANIC who was employed to place the engine and boilers on board the Evening Star, says they were old, and in reality unfit for service for the last two years.

IN some of the Owyhee claims, Idaho, miners are paid in greenbacks at par, instead of gold dust, which in that region is of indefinite value, owing to the mixture of various sorts, and the frequent counterfeits.

At a late meeting of the British Association for the advancement of the Arts and Sciences, Mr. Bessemer said that the American iron which he had seen was peculiarly adapted to the manufacture of steel by his process.

J. D. PETERS, grain and commission merchant, of Stockton, has prepared four sacks of wheat to be sent forward to the Industrial Exhibition at Paris. The bags are of satin, and are covered with linen.

By the 20th instant the locomotive will be running to Cisco, which is ninety-three miles from Sacramento, and at an elevation of six thousand feet. Yaakees think nothing of building railroads over mountain ridges. Work will be continued throughout the winter on the other side of the Sierra, below the snow line.

SEVERAL tons of valuable copper ore were received in this city a few days ago, from one of the mines in the Peavine district, on the Truckee river, near Crystal Peak, Nevada. This ore was brought from Alta by the Central Pacific Railroad, being the first shipment from that section of Nevada.

The volcano Popocatepetl has recently been explored by a party which reports the crater accessible. Millions of tons of sulphur are lying there, and in many places in a pure state. It can be carried to the summit of the volcano, and from thence to the base of that eternally snow-crowned mountain, at an expense of only fifty cents the hundred pounds. The value of one hundred pounds in Mexico is \$10.

Mammoth Quartz Lode, Keysville District, Kern County.

"To all whom it may concern,"
ALL PARTIES negotiating for interests in the above Lode, would do well to examine titles before investing, as the legal title to a considerable portion thereof is vested in the undersigned.

WILLIAM MARSH,
W. L. KENNEDY.

Keyssville, Kern County, Oct. 1, 1866.
16v13nr5m

STERRETT & CUBERY,
PRINTERS,
533 Clay street,
—AND—
—BELOW—
MONTGOMERY STREET.
19v13-3m
Low Prices.

WM. A. KOLLMYER,
LOOKING-GLASS
—AND—
PICTURE FRAME MAKER,
No. 41 Third street,
Near corner of Jessie.

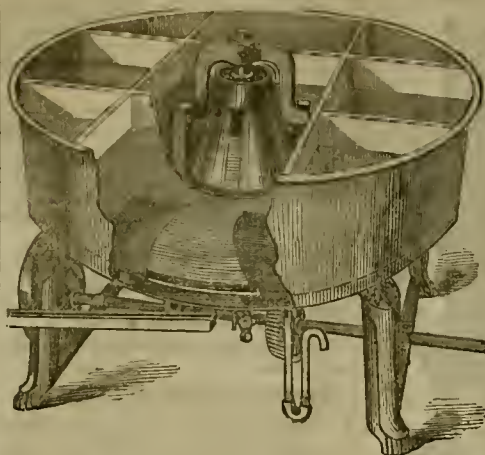
GLASGOW
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WORKERS OF GOLD & SILVER ORES.

THOSE INTERESTED WILL FIND IT TO THEIR ADVANTAGE to call on MR. WILLIAM SLOSSON, at Prof. W. P. Blake's Office, and obtain a Business Circular, just published by the WURTZ AMALGAMATION COMPANY of New York, who have secured, under the Patents of Prof. Henry Wurtz, the sole and exclusive right to the use of soda in amalgamation. Mr. Slosson is prepared to supply the business of the Company, with the material for applying this new and wonderful discovery, by which, in the words of President Barnard, of Columbia College, "two grains of gold may be gathered where but one was before." 19v13-2m

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CAUTION!

NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 27th, 1865, to Professor Henry Wurtz, for the use of Sodium and Amalgam thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

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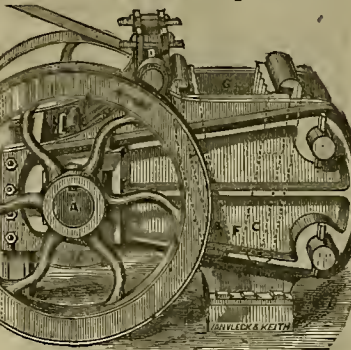
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No. 3—Or 20-inch Crusher, with a similar main shaft, crush from seven to eight tons per hour—price, \$1,200

EXPLANATION OF THE ABOVE ENGRAVING.
The frame is made of cast iron, built with heavy wrought iron bars, making it very strong, and at the same time light and portable. The crusher is bolted to a wooden frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.
The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne county:
RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1866.
JAMES BRODIE, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,
R. P. JOHNSON,
Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED OERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in California and Nevada. Diagrams and explanations are furnished on application to the subscribers.
A drawing and full description of this machine will be found in the Mining and Scientific Press, of Sept. 22d, 1866.

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COMMITTEE

—ON—

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"FLORENCE"

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(Signed)
J. N. ANDREWS,
THOMAS C. McHALE,
L. ELKUS.

19v13-2m If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.

SAMUEL HILL,
General Agent, 111 Montgomery street, San Francisco.
17v13

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

A NEW OIL.—It is said that a new oil has recently been discovered in some of the shales of Central Missouri. It is non-explosive, and said to be quite superior to ordinary petroleum. About sixty gallons are obtained from a ton of the rock.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & CO., Patent Agents.
San Francisco, May 1st, 1866.

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OUR NEW YORK AGENCY.

Mr. Geo. M. Newton is our authorized agent in New York City, and will receive advertisements and subscriptions for the MINING AND SCIENTIFIC PRESS at regular rates. Sample copies of our weekly and monthly issues can be procured by calling upon him, at the office of the "Stockholder," No. 72 William street.

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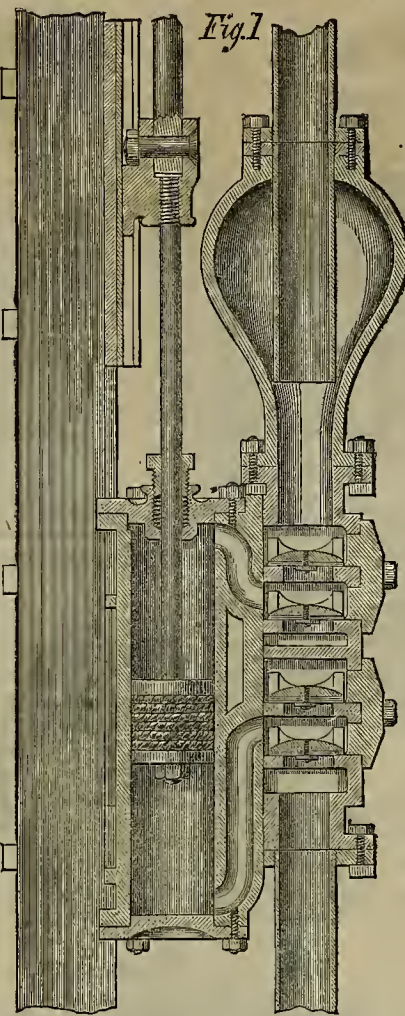
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Figure 1 is a sectional view of a 6-inch Mining Pump, showing the plunger and hemppacking, and the valve-chest containing the puppet valves. Fig. 2 illustrates the water-passages and valve seats in the chest.

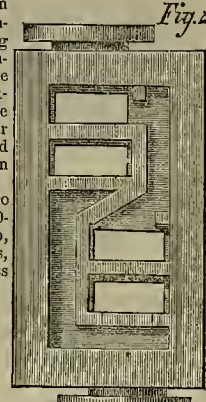
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- No. 3.—Cylinder, 4 inches; stroke, 9 and 8 inches; capacity, 2,500 gallons per hour; weight, 200 pounds; with iron frame and slide complete.
- No. 4.—Cylinder, 5 inches; stroke, 15 inches; capacity 5,250 gallons per hour; weight, 200 pounds.
- No. 5.—Cylinder, 6 inches; stroke, 24 inches; capacity 12,575 gallons per hour; weight, 1,000 pounds.

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Administrators' Sale of Real Estate.

NOTICE IS HEREBY GIVEN, THAT IN PURSUANCE of an order of the Probate Court of the City and County of San Francisco, in the State of California, made on the fifth day of November, A. D. 1865, in the matter of the estate of ELIZA ANN DOUGLAS, deceased, the undersigned, the Administrator of said estate, will sell at public auction, to the highest bidder, for cash, in one parcel, and subject to confirmation by said Probate Court, on MONDAY, the third day of December, A. D. 1865, at 12 o'clock, M., at the auction rooms of Olney & Co., No. 418 Montgomery street, in the City and County of San Francisco, all the right, title, interest and estate of the said intestate at the time of her death, and all the right, title and interest that the said estate has, by operation of law or otherwise, acquired other than or in addition to that of the said intestate at the time of her death, in and to all that certain lot, piece, or parcel of land, situate, lying, and being in the said City and County of San Francisco, State of California, and bounded and described as follows, to wit:

Commencing at a point in the southerly line of Broadway street, distant one hundred and fourteen feet six inches easterly from the southeasterly corner of Broadway and Powell streets; thence southerly at right angles to Broadway street and parallel with Powell street seventy-seven feet six inches; thence at right angles westerly nineteen feet six inches; thence at right angles southerly to Broadway street and parallel with Powell street forty feet eight inches; thence at right angles easterly thirty-nine feet six inches; thence at right angles northerly and parallel with Powell street one hundred and thirty-seven feet six inches to the southerly line of Broadway street; thence westerly along the said line of Broadway street twenty-three feet six inches to the point of beginning.

Terms and conditions of sale: Cash—ten per cent. of the purchase money to be paid to the auctioneer on the day of sale; balance on confirmation of sale by said Probate Court; deed at expense of purchaser.

SAMUEL S. MURFEY,
Administrator of the Estate of Eliza Ann Douglas, deceased.
San Francisco, November 10th, 1865. 19v13

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The following resolution was adopted by the California Miners' State Convention, held at Sacramento, Jan. 17th, 1866:

Resolved, That we regard a mining paper or journal of great importance to the mining interest of California, and we recommend the MINING AND SCIENTIFIC PRESS, of San Francisco, to the consideration and support of the miners of the Pacific coast.

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SAN FRANCISCO, SATURDAY, NOVEMBER 24, 1866.

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Number 21.

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[Reported for the Mining and Scientific Press.]

California Academy of Natural Sciences.

REGULAR MEETING, Monday, Nov. 19, 1866.

President in the chair.

Seventeen members present.

Minutes of previous meeting read and approved.

Mr. J. B. Russell and Dr. E. Bell were elected resident members.

Donations to Cabinet.—Specimens of copper ore from Balajaqua, Chihuahua, presented by Mr. R. C. Jacobs.

Donation to Library.—Pamphlet on the Polyps and Corals of Panama, by A. E. Verrill.

Prof. W. P. Blake read several mineralogical notes, which were on motion referred to the Publication Committee.

A paper was received from Mr. W. M. Gabb, upon certain cretaceous fossils collected near the south end of Clear Lake.

Remarks in connection with certain fossils described by Mr. Conrad, elicited from Prof. Blake the reply that the species referred to were collected by himself, and were in exceedingly good condition; that the number of specimens was not meager, but in quantity sufficient to fill a quarto plate with figures.

Prof. Blake read a paper upon a fossil fish found in the Great Basin, Nevada; referred to the Publication Committee.

Prof. Blake also directed the attention of the Academy to specimens of the fossil vertebrae, collected by him in Tulare county. These specimens are about twenty in number, and are from two to six inches in length, and two to three inches in diameter. He believed them to belong to large marine saurians, like crocodiles, but wished to make further study and comparison previous to making a more formal communication to the Academy. If correct in his opinion, it was, he believed, the first instance of the discovery of Saurian remains on the Pacific coast of the United States, and the discovery will be rendered still more interesting by the fact that the remains occur in strata reputed to be Miocene, associated with shurks' teeth and numerous marine remains, at least fifteen hundred feet above the present ocean level.

Prof. Whitney stated that the State Geological Survey discovered fossil specimens belonging to the ichthyosaurus, in this State some two years ago.

Prof. Whitney also stated that a large and interesting collection of fossils, from the south-easterly portion of Nevada, had been received from Dr. Blatchley by the State Geological Survey, comprising some twenty-five or thirty species.

Prof. Blake referred to Dr. Newberry's statement of the existence of silurian rocks along the cañon of the Colorado, and to his own statement of the probable existence of pre-silurian rocks in that region.

Dr. Gibbons announced the death of the distinguished naturalist, Dr. Augustus A. Gould, of Boston.

On motion, Messrs. Bolander, Whitney and Gibbons were appointed a committee to devise some plan for procuring essays, on different subjects, to be read at the meetings of the Academy. Adjourned.

THE CULTURE AND MANUFACTURE OF SILK.

The business of silk culture and the manufacture of silk goods, has long been a favorite idea with many people in the Eastern States. The first important attempt at the introduction of the silk business on this continent, was made in the State of Virginia during the reign of James I of England, but, notwithstanding its promising inception, owing to the great demand for tobacco which just then began to come into general use, and the large profit derivable from its culture, the filthy Indian weed soon got the advantage of the web of the Chinese worm, and Jamestown became noted for its tobacco, rather than for its silk, for which its climate and soil is so peculiarly favorable.

About the middle of the eighteenth century, some enterprising citizens of Georgia procured artisans and others skilled in the culture and manufacture of silk, and established the business in that State with such encouraging indications of success, that considerable quantities were exported, and Georgia silk was pronounced in Europe fully equal to the best that could be produced in Italy, and actually commanded the highest price in London of any silk in the market. The business was also at this time obtaining some foothold in Connecticut. Just as success, ample and remunerative, was beginning to be realized, the troubles which preceded the Revolutionary war, and finally the war itself, intervened, and effectually closed out that class of industry.

After the war was over, the general introduction and rapid growth of cotton at the South, and its manufacture at the North, opened up such a wide and promising field for enterprise that the silk business was almost entirely ignored, until a few speculators started the *moris multicaulis* mania of 1836-7. If no other advantage came of that speculation, it certainly produced a beneficial effect in once more calling the attention of the American people to the fact that the silk business was one which might still be advantageously introduced into this country. The idea of silk culture and manufacture has, in fact, never been lost sight of in the Atlantic States from that time to the present. Its progress has since been slow but continuous, until it is now assuming proportions of no little importance.

The chief interest in the silk business in this country is now centered in Connecticut. In Hartford and Manchester, in that State, the Cheney Brothers have established quite extensive silk manufacturing operations. They manufacture ribbons and dress silks, said to be in no way inferior to the very best imported. Tobias Kohn, a Hungarian, has also quite an extensive establishment in Hartford, and furnishes from thence the best articles of silk braid and trimmings to be found in the New York market.

But nearly all the raw material to supply these and other establishments comes from China, Japan and Southern Europe. There is no adequate reason, however, why our own country should not produce all the material necessary to keep our home manufactures running, and encourage thereby the erection of

others. The Southern portion of the Atlantic States is particularly well adapted to the culture of silk, and experience has also proven that it can be successfully and profitably cultivated in the Middle and most of the Northern States.

SILK CULTURE IN CALIFORNIA.

California, however, presents the most encouraging field for this business. No part of the world possesses so many and such decided advantages for raising the silk-worm, and we have here land enough to supply the entire country with the raw material. Mr. L. Prevost, of San Jose, well known as the pioneer silk culturist of this coast, has given almost his undivided attention to the business, for several years past, and acquired a fund of experience here, which, added to his knowledge of silk operations in Europe, will furnish our people with all attainable, and, in fact, all really desirable information concerning the business. With a spirit worthy of the highest praise, and without the most distant pecuniary end to gain, he has announced his willingness to furnish this information *free of cost*, to all who desire to make a practical use of it. This benevolent purpose he has already carried out, as far as he has been able to do, by personal intercourse and by private letters, and communications to the public press. In the furtherance of this disinterested effort, he is now engaged in the preparation of a

CALIFORNIA SILK MANUAL,

Which will contain, in the form of a small volume, the complete results of his experience and observations in silk culture, as particularly applicable to California. This work will soon be published, and will comprise the fullest and most complete information attainable for the economic and profitable culture of silk. It will comprise the result of years of experience and voluminous correspondence, all of which has been undertaken with the sole purpose of determining the best character of soil, the best species of worm and tree, and the fullest details of management suited for this State.

With this same object still in view, Mr. Prevost has recently furnished to the press throughout the State, for the guidance of those who may wish to know something of the price of cocoons, previous to engaging in producing them, the following information with regard to their value in France. The information here given is the report of actual sales recently made, and informs the reader from what localities the silk manufactures of Europe chiefly derive the raw material:

3,000 lbs. of Cocoons from Syria, sold for \$2.40 per lb.	
2,000 Nonka, .. 1.30 ..	
2,000 Nonka, .. 1.40 ..	
42,000 Nonka, .. 1.50 ..	
2,000 Acoulis, .. 1.50 ..	
4,000 Caucasus, .. 1.30 ..	
2,000 Andrianople, .. 2.50 ..	
2,000 Demirch, .. 2.40 ..	
1,000 Demirch, .. 2.00 ..	
1,800 Greece(yel), .. 2.40 ..	
3,000 Greece(yel), .. 2.30 ..	

It is highly necessary that those who are preparing to go into the business should know what they are about; hence Mr. P. has promised to keep them thoroughly posted. By referring to the above list of prices, it will be observed that the scale varies from \$1.30, the lowest, up to \$2.60, the highest; the price being regulated by the quality of silk which the cocoons will produce. Mr. Prevost writes us that he is confidently of the opinion that as soon as our people become conversant with the business we shall raise cocoons of the very best quality, and consequently shall be able to command the highest price. The price of cocoons raised here cannot be definitely fixed

until they are produced, and their quality determined. There need be no fears of the lack of a market for cocoons raised in this State, without the expense and delay of sending them abroad, for it has already been stated that Messrs. Neumann & Myers have fully determined upon the establishment of

A SILK MANUFACTORY

In San Jose, which will create a large home demand for all that can be raised, and at prices materially in advance of those which are paid in Europe for the same quality. During our recent visit to San Jose we had the pleasure of meeting these gentlemen in that place. They had just then concluded the purchase of twenty-five acres of land for their buildings, on which, we understand, they have already commenced work. It is their intention to have the manufactory in operation early the ensuing spring. Of course, it is not expected that California will immediately produce a sufficient supply of the raw material to keep the factory in operation; but our proximity to China and Japan, where the best silk is raised, will afford a plentiful supply until that want can be obtained at home.

While in San Jose, Mr. Prevost showed us a letter which he had just received from Mr. Rice, the United States Consul at Hakodada, in which that gentleman writes that it is his intention to soon resign his consulate and take up his residence in California, with the view of going extensively into the culture of silk. He purposes to bring with him several Japanese who are well versed therein. Mr. Rice has evidently looked carefully into the business, with the eye of making money out of it. Such a determination arrived at from his standpoint, should be received by Californians as a most encouraging indication that the business must prove highly remunerative here.

We learn from the Marysville *Appeal* that quite a number of the citizens in Yuba, Sutter, Colusa, Butte and Tehama counties contemplate planting mulberry trees the coming season. Great numbers in the San Jose valley and other central portions of the State purpose, also, to embark in the business; some of whom will go into it on a very large scale.

CALIFORNIA PECULIARLY ADAPTED TO THE BUSINESS.

The market for silk is as wide as the world, and there is no danger of its being overdone. The demand is increasing much faster than the supply. Silk sells according to quality, and experience has fully established the fact, which philosophy and chemistry had previously indicated, that California can produce a better silk fiber than any other portion of the world. The clear and quiet atmosphere of this State is peculiarly favorable for the undisturbed operations of the worm, and enables it to carry on its mysterious operations to the greatest perfection, and maintain a degree of healthfulness nowhere else observed. The beautiful and continuous sunlight of the summers of this State, scarcely ever, during the critical period of the existence of the worms, being disturbed by a cloud or thunder storm, constitutes the crowning feature of the peculiarly favorable nature of the climate—a feature which even Italy, with its boasted, halmy atmosphere cannot afford. Hence, we may reasonably infer, that, with proper energy, California may not only be able to supply her own manufactures with the raw material; but that when it is known abroad that she can and does produce the best quality of cocoons, every silk manufacturing country in the world will seek our shores for the coveted supply of the best material for their looms.

COBALT ORE IN CALIFORNIA.—Prof. Blake has recently described a cobaltic variety of arsenical pyrites from Meadow Lake, in Nevada county. The mineral is known as *Danait*, after the distinguished metallurgist of that name.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Placers of Sierra County.

BY AN INDEPENDENT CONTRIBUTOR.

[Continued from Page 274.]

Even an attempt to locate and describe this ancient river and its tributaries, from its source to its mouth, without accurate maps, the reader must be aware, will be attended by almost insurmountable difficulties, and can but be approximated. I will, however, to the best of my ability, from evidence deduced from actual observation, endeavor to trace its course, asking the reader to accompany me on Bancroft's map of the State of California, published in 1864.

We find the first faint traces of the source of these important streams in the fortieth parallel of latitude, near the volcanic peaks of Plumas county, and the northern portion of Butte, capped and covered by volcanic lavas. The Middle Fork of the Feather river having flowed at right angles, has eroded its rocky covering, cut through its walls, and exposed its slightly water-worn gravel. From the head of its most easterly Fork to its westerly branch, it has served to drain an extent of country from seventy-five to eighty miles wide; thence flowing southerly, without regard to its sinuities, we find its mouth in the thirty-eighth parallel of latitude, a distance of more than one hundred and fifty statute miles, through the heart of the most productive auriferous belt of the Sierra range.

The source or extreme head of the Dahlenega (in Sierra county, known as the Blue Lead) was in the vicinity of what is now known as the Spanish Peak, in Plumas county; thence flowing southerly, east of Pilot Peak, and entering Sierra county, passing through Howland's Flat, Cold Cañon, Poker Flat, Monte Cristo, Excelsior, Forrest City, Alleghany, Chipps, Minnesota, and entering Nevada county, at Snow Point, flowing through Alpha, entering Placer county, at a point near Libertyville; thence through Iown Hill, Birds' Flat and Michigan Bluffs, it enters El Dorado county near that point; thence through Works Hill, Johnstown, Kelseys, Placerville, Diamond Springs, Logtown, and enters Amador county at Yeomere. At a point near Fiddle Town the river makes a considerable detour to the eastward, describing nearly the half of a circle, flowing in a southeasterly direction, between Volcano and Jackson Buttes, enters Calaveras county near Stony Bar; thence through Mokelumne Hill, it flows in a southwesterly direction through the extreme northern portion of Stanislaus county, debouching into the bay or ocean at a point near the easterly boundary of San Joaquin county, in the thirty-eighth parallel, where, owing to denudation and accumulation of alluvium, from washings of the Sierra range, covering and obliterating the remains of its bed and contents, its traces are indistinct and obscure.

Within the arc of the circle described, the channel of the river appears to have been repeatedly changed, gradually cutting channel after channel, in a westerly direction, the remains of which, and their numerous contents, cover a large area in Amador and the western portion of Calaveras county, when not obliterated and destroyed by the denuding agencies of the present river system, and originally forming a delta, whose extreme length was thirty-five by twenty miles wide at its widest point, forming the extensive placer fields for which these counties have been so justly celebrated. On its most westerly channel we find located the towns of Drytown, Amador, Suttersville and Jackson; and it passed from thence through the western portion of Calaveras, and uniting with the easterly channel at a point near the thirty-eighth parallel, on the borders of San Joaquin county. The Jackson Buttes shows strong evidence of having been an independent volcanic vent, and no doubt has, to a certain extent, occasioned this disturbance, from the repeated overflow of its lavas filling

the river banks and forcing its waters westerly through other channels.

The stream which I have designated as the Saranac, unites with the Dahlenega at or near its mouth, taking its rise at a point near the "Silver mines," in Calaveras county, flowing westerly and southerly for about twenty miles, where a fork comes in from the eastward, which takes its rise in Silver Valley; thence the Saranac passes on, forming the boundary line between Tuolumne and Calaveras counties, covered and capped by basaltic lavas for sixteen miles, where we find the volume of the stream again augmented by a branch which heads in Strawberry Valley, flowing through Columbia and Table Mountain; thence on its course near Knight's Ferry a still larger branch intersects, which flowed from the vicinity of the Green Mountains, through Sonora and Jamestown; thence nearly due east, to its confluence with the Dahlenega.

For a distance of fifteen miles, in a northerly direction from the head of the delta previously described, the Dahlenega appears to have had no eastern tributaries of note, until reaching the vicinity of Diamond Springs, in El Dorado county. Here the river designated as the Altan unites, flowing from the vicinity of the American Valley. Its traces are, however, indistinct, and the river of minor importance for its auriferous gravels; thence northerly, forty miles, on the boundary line between Nevada and Placer counties, an important tributary (which I will designate as the "East Fork") is observed, which has flowed from the northward, taking its rise in the vicinity of Nelson's Point, in Plumas county, and flowing southeasterly, passing near Jamison City, entering Sierra county at Gold Lake, its bed cut by the Forks of the Yuba river, at a point four miles east of the Downieville belt; thence down the ridge opposite American Hill; thence southwesterly, entering Nevada county at a point near Jackson, in Sierra county, and passing through Washington and Oneida, unites with the main stream at the place designated. This fork is easily traced, and plainly marked for its entire distance (where not destroyed by the present river system), by a capping or covering of lava and tufa, which has flowed from the volcanic peaks near its source, filling its gorge from crest to crest. The Forks of the Yuba, in their westerly flow, have in places not only destroyed this almost indestructible material, but cut gorges hundreds of feet below the beds of these ancient streams, exhibiting nearly vertical sections of the stratified auriferous deposits. There are several small tributaries of this fork that have taken their rise near Galloway's Hill, in Sierra county, and flowing easterly, unite with the main stream opposite American Hill, forming gravel deposits of note for their auriferous yield. Nebraska City is the most noted locality.

In article of November 10th, for "broken up," read "opened up;" for "Lamijar," read "Lamine;" for "velo 125 feet long," read "chute;" for "Woods & Warren," read "Woods & Warner;" for "past history and disbursements," read "developments."

[Written for the Mining and Scientific Press.]

Southeastern Nevada.

BY J. D. EMERSON.

About one hundred and forty miles southeast of Austin, and not more than sixty miles from Pahranaagat, is located the Reveille mining district—so named in honor of the little daily newspaper which stands up so spunkily for the interests of the Reese River country. Amongst the many rich discoveries made this summer in the southeastern portion of the State, represented by Silver Bend, Northumberland, Danville, Marcy, Hot Creek, and Empire districts, Reveille stands pre-eminent, in the quality and quantity in sight, of its high grade silver ores. The formation is a feldspathic granite, capped over by silicious limestone, having imperfect crystallization. The veins are numerous, varying in width from three to twenty feet, and where the calcareous cap is light they are well defined and traceable for quite a distance. Their course is usually a little east of north and west of south, varying according to the contour of the surface a few points either way. As far as can be determined, from the small amount of work done on the ledges, they appear to dip easterly, with considerable regularity, at angles varying from forty-five to sixty degrees. The mineral is well diffused through the gangue of the vein, and, judging by the outcrop, the chimneys of ore are extensive as well as numerous. One or two of the most promising locations in the district, such as the Fisherman and Santa Fe, yield a very rich chloride ore of a dull, dirty color; its dinginess being due to the presence of heavy sheets of horn silver. When put into a forge, this ore sputters and boils in globules of molten silver, as a piece of fat meat would in its own grease when thrown into the fire. Assays of

almost any amount, from \$500 to \$15,000 per ton, can be obtained from this mineral; and tons of ore are in sight, without any work being done, which will mill \$1,000 to the ton. Other locations, comprising the Crescent, Highbridge, and Indian Queen, show bodies of ore, varying in width from five to twenty-five feet, which with very little assortment will yield \$200 to \$300 per ton by mill process. Rarely, if ever, have such splendid deposits of high grade mineral been seen in undeveloped mines as are now in sight on these and dozens of other newly located claims in the district. If the surface ore will only hold out to a depth of ten feet, there is sufficient pay rock available to keep several mills in full work for years to come; and, judging from the character of the formation, there is nothing to lead to the supposition that the ore will not be as good hundreds of feet down as it is on the surface. The best mines in Silver Bend district become richer as they are gone down upon, and there is reason to believe this will also be the case in Reveille.

There are no mining streams in the vicinity, but water is readily found by sinking fifteen to twenty feet; and about six miles from the mines, on a down hill grade, sufficient water for milling purposes can be obtained. Wood is plentiful six miles from the water, and will be hauled on a descending grade most of the way. With such ores as abound in the Reveille district, the disadvantages of wood and water being scarce in the vicinity of the mines will soon be surmounted, and ere another year its record in the yield of bullion will incontestably demonstrate the sterling value of its mines.

Austin, Nevada, November 15, 1866.

PROCESS OF ROASTING ORES, ETC.

Translated from the German of F. Plattner, for the Mining and Gas-Light Journal, New York.

BY J. H. TIEMANN, M. E.

NUMBER TWO.

[General remarks upon the changes which finely pulverized ores or mill products undergo, when roasted in properly constructed furnaces.]

When finely pulverized ores or mill products, consisting chiefly of sulphur metals, are roasted in a reverberatory furnace with a horizontal hearth, upon which they are spread several inches in depth, at a temperature which exactly serves to cause the sulphur and the metals in combination with it to absorb oxygen from the air passing over them, free metal-oxides, and generally sulphates are formed, while sulphurous acid is generated which has but a slight affinity for metallic bases; many arsenic metals act in a similar manner, either free oxides and oxides in combination with arsenic acid are formed, together with the generation of arsenious acid, or only oxides in combination with arsenic acid, (less frequently arsenious acid). Many sulphur metals, also, in combination or united with sulpho-arsenic metals, change to sulphates and arseniates, or to free oxides and arseniates. Under certain circumstances, antimonites appear to be formed, when, for instance, the ore to be roasted contains sulphur metals combined with antimony, or which in general contains a sulphide of antimony which, when roasted alone, as is well known, changes to a compound of antimoniac acid with the teroxide, while a portion of the teroxide passes off in the form of white vapors.

It being a condition that the air necessary for the oxidation of the sulphur and arsenic metals should have free access, it would seem at first sight to be more advantageous to have a muffle-shaped roasting furnace heated from the outside, in preference to one where a flammable fuel is used and the flame passes directly into the furnace, but upon closer investigation this is found not to be the fact.

Although in a roasting furnace of the first named description, a so-called "muffle furnace," the conditions may be fulfilled by which an oxidation of the sulphur and arsenic metals is possible, inasmuch as pure atmospheric air can be brought in contact with the ore, and the admission of a greater or less quantity is completely under control; there are three circumstances worthy of particular notice.

1. That for the proper heating of the muffle a larger amount of fuel is necessary than where the flame passes directly into the furnace.
2. That the temperature of a muffle furnace cannot be increased or diminished as desired, which is so necessary in many roasting processes, in which at certain periods a higher or lower temperature is required.
3. That the heating of the substance to be roasted is principally from the hearth, which is highly disadvantageous for many ores and mill products which sinter or smelt. The muffle furnace, therefore, is to be preferred to the ordinary flame or reverberatory furnace only in the follow-

ing cases: First, when it is desired to roast arsenic and sulphur metals, especially cobalt and nickel ores, arseniates, etc., with stone coal, and at the same time avoid impurifying with soot the resulting arsenious acid (giftmehl), metallic arsenic and suboxide of arsenic. Second, when, in roasting sulphur metals (schwefelkies, zinkblend, etc.), the resulting sulphurous acid is to be conducted into leaden chambers and there converted into sulphuric acid; though for zinkblend, which requires for its complete roasting a higher heat and longer time, the furnace is built with a double hearth, where, for the better economizing of the fuel, the gaseous products of combustion which pass under the lower hearth are allowed to pass directly into the upper one. Third, when the ores or mill products are rich in silver, and there is fear of loss in silver by volatilization by the passage of the heated products of combustion directly over the ore.

In most cases the object is obtained by using an ordinary reverberatory furnace, having a roasting space of proper light, and whose roasting surface and the open working doors, or other openings for the admission of air, bear a definite relation to the opening in the stack or chimney, and which has besides a good draught. The flame passes from the fire-box over the fire-bridge into the roasting chamber, always with some undecomposed atmospheric air, and diffuses itself at first through the whole space; but when the latter has become sufficiently heated, it ascends in waves to the arch, where the oxygen of the undecomposed air which has passed into the chamber is absorbed by the inflammable gases and carbon, making the flame illuminating, and the ore, which is spread on the hearth six or eight inches deep, is heated by the radiated warmth. At the same time air is admitted by the working doors or openings made for that purpose; this air being cold, and consequently denser than the burning gases, forces itself between the flame and the ore, causing a complete combustion of the carbon in suspension, and the still unignited gases, to carbonic acid and carburated hydrogen, thereby increasing the temperature and heating the ore more thoroughly. At the same time the temperature at the arch is increased, for the specifically light gaseous combustible products pass upwards through the gases which constitute the flame, and thus give an opportunity for other portions of the flame to become ignited, so that the flame on its way to the stack loses indeed its illuminating property, but in its stead develops new warmth. The gaseous combustible products, hydrogen and carbonic acid, which enter or are formed in the roasting chamber, pass off up the chimney in connection with the remaining undecomposed atmospheric air and the nitrous oxide-gas which has been generated, in the same ratio as new qualities are formed. If the roasting chamber is of such a height that a larger quantity of air is admitted than is necessary for the combustion of the gases and burning particles of carbon in the lower part of the flame, a part of the oxygen of the air causes an oxidation of the ore, the gaseous products or vapors thereby formed, heat being at the same time generated, pass up the chimney with the gaseous products of the fuel, the liberated nitrous oxide-gas and the remaining undecomposed air.

[To be Continued.]

THE YANKEES AHEAD.—A man-of-war regatta recently took place off Cherbourg, France, in which fifteen French boats and one American were entered. The race was for double-banked boats of all nations, pulling not more than sixteen oars, with boats from twenty-nine to thirty-five feet long. The American boat was thirty-four feet in length, with but twelve oars; all the French boats had sixteen oars each. The distance was 2,000 metres out and back. The American boat came in, amid the plaudits of both squadrons, half a ship's length ahead of all the others.

WATER SUPPLY FOR LONDON.—People who doubt the practicability of providing a water supply for San Francisco from Lake Tahoe, on account of the cost of bringing the water so great a distance, will do well to reflect for a moment upon what is now very generally considered the most feasible project for supplying the city of London with water. In addition to the immense amount of money already spent in that direction, the plan now in progress of development is to bring water from the mountains of North Wales, at a cost of from thirty-five to forty millions of dollars. The average rain fall of those mountains is larger than that in the Sierra Nevada—or about sixty inches per annum.

Mechanical.

Effect of Percussion on Iron.

Dr. Percy, in his late work on the metallurgy of iron and steel, raises an important point for discussion, with reference to a supposed deterioration in the quality of iron from the effects of percussion, which applies equally well to steel. The ideas advanced by Dr. Percy are quite at variance with the popular idea on the subject. He says it has long been a moot point with engineers, whether, under repeated light blows, or rapid vibration of machinery in action, iron becomes disintegrated and consequently brittle. This is undoubtedly the case with brass, which, when subjected to vibration, in a few weeks becomes as brittle as glass. When the frightful accident occurred on the Versailles Railway, some years since, occasioned by the breaking of a crank axle, the best men of science and practice in France were called upon to give evidence upon the point; but they were by no means agreed. The whole subject was again discussed before the Commissioners appointed by the English Parliament in 1849, to inquire into the application of iron to railway structures. Evidence was given to show that pieces of wrought iron exposed to vibration frequently break after long use, and exhibit a peculiar crystalline fracture and loss of tenacity; whilst other witnesses maintained that this peculiar structure was the result of an original fault in the process of manufacture, and that the internal constitution of the metal remained unaffected by vibration, however rapid or long continued. In opposition to the popular view as to the brittleness of iron being occasioned by vibration, Mr. Robert Stephenson pointed to the engine-beam of a Cornish engine, which received a shock equal to about fifty-five tons eight or ten times a minute, and yet went on working for twenty years without apparent change. He also referred to the connecting rod that communicates the power of the locomotive to the wheel, and receives a violent jar eight times in a second at ordinary speed, and yet remains unaffected. He pointed out that in a case of that sort a rod that has borne two hundred millions of such jars, will be found, on examination, to have retained its fibrous structure.

Where iron exhibits a crystalline appearance on breaking, Dr. Percy rightly points out that time plays a most important part in determining the character of the fracture. When the metal is broken with extreme rapidity the fracture will be crystalline; when broken slowly, it will be of a fibrous appearance. In the case of the breakage of a crank axle, we apprehend the cause to be torsion, not vibration. It was stated in evidence by a locomotive engineer, at the inquiry into the causes of the Bow accident on the Great Eastern line, that the very first turn of a crank axle begins the process of breaking; and that the final fracture—nearly always at the same place—is only a question of time. That

THE BRITTLENESS OF IRON IS INCREASED BY FROST.

Is also a prevalent notion among engineers, similar to the popular impression that bones are more brittle in winter than in summer. But the railway accidents which occur in frosty weather are more properly attributable to the circumstance that at that time the road is hard and rigid, and the engines running over it at high speeds are much more strained, and consequently more liable to accident than they are in ordinary weather, when the road is soft and yielding; just as in frosty weather we are more liable to falls, and consequently to fractured limbs, arising from the slipperiness of the roads rather than to the increased brittleness of our bones at that season. To put the matter to a practical test, however, Mr. Ramshot had a piece of rail taken up while covered with sharp frost and placed under the large steam hammer at Crewe, when it stood the blows necessary to double both ends together without showing the smallest indication of fracture. Nevertheless, the suggestion of Dr. Percy is well worthy of consideration, in which he says, "It is most desirable that the subject should be accurately investigated, and the Institution of Civil Engineers would render excellent service by conducting an elaborate inquiry into it."

NON-CONDUCTIVE STEAM PACKING.—When it is necessary to carry steam any considerable distance, the best non-conducting protections, which have been proven by experience, are to first cover the pipe with hard felt, then enclose the pipe in a box, packing the same close with spent tan, sawdust, straw or fine charcoal.

DETERIORATION IN IRON.—Attention is being called by English engineers to the asserted fact that a great deterioration is being observed in the quality of modern-made iron over that produced thirty or forty years ago. It is noted that all the earlier experimenters with iron found greater strength in ordinary qualities made at that time, than is now possessed by the very best which is made. The rails for railroads, made thirty years ago, are said to possess much more durability than those now being made. Speculations are advanced as to the probable cause of this deterioration; whether it arises from the greater rapidity in the processes of manufacture employed now, as, for example, the use of the modern "squeeze," by which the cinders and sand may be pressed into the metal, instead of being beaten out, as by the old tilt-hammer process; or from the use of the hot blast, by means of which it is found that much poorer ores can be reduced than by the cold blast; or the spirit of competition, which induces iron manufacturers to turn out the largest possible quantity at the smallest possible cost—whatever may be the cause, the fact is claimed by English engineers as patent, that the manufacture of wrought iron in Great Britain has undergone a serious deterioration during the last half century.

The only remedy suggested, is the more general application of steel for iron, since that metal can now be made so much cheaper than formerly. Few persons, even among experienced mechanics, we apprehend, are fully aware of the great difference in the character of cast iron as it comes from the furnaces.

THE MANAGEMENT OF IRON AND STEEL.—George Edes, of London, has recently published a work under the above title, which is highly spoken of as supplying a want long felt by mechanics, and all engaged in the practical manipulation and application of iron and steel. Mr. Edes, in his preface, very properly states that if young apprentices were taught to make themselves better acquainted with the materials they work upon, and for which their tools are made, as well as the proper management of these materials, the advancement of the sciences would be greatly hastened; as this knowledge would increase the powers of the head to contrive, and the hands to execute. The inventions which become publicly known, are few in comparison with those which spring up in the minds of ingenious mechanics, and perish with the hour that gave them birth, through the want of a better knowledge of the properties of the material, which they are endeavoring to call into exercise. Mr. Edes might have added, that a vast amount of labor and money might also be saved to inventors, in their investigations, from the possession of such knowledge, in the judgment that it would give them in rejecting such contrivances as are not suited to the end in view. Many an inventor has spent months of toil and study in bringing out an invention which any person, moderately well versed in mechanics, would have condemned at the start.

PLATINIZED COPPER VESSELS are being introduced into Europe, for purposes where heretofore those made entirely of platinum, have been employed. The former are said to be fully as safe and reliable for containing strong acids as the latter, and are of course very much cheaper.

TERRIBLE BOILER EXPLOSION.—An upright stationary boiler recently exploded at Pinkbead, Glasgow, Scotland. The boiler was of singular construction, somewhat resembling a huge nautical telescope, 36 feet high, 5½ feet diameter, standing upright upon its broadest end, the whole surmounted with twenty feet of large pipe. When the explosion occurred, the entire boiler and pipe was thrown perpendicular upward, a distance of 300 feet, and with so much precision that it came down with a tremendous crash directly upon its bed.

ENGLISH RIVER STEAMERS are not generally provided with engine signal bells, as is the case with American steamers; but the captain or pilot conveys his orders to the engineer by means of a boy, who is stationed at the entrance of the engine room to repeat the word.

Scientific Miscellany.

THE DISSOCIATION OF GASES.—It has recently been learned that, at very high temperatures, compound gases and their components have no action on each other. Cailletet has fully proven this, and the fact is now deserving the special attention of metallurgists, inasmuch as it may seriously affect results in furnace operations in particular. This *savant* has furnished a record of some curious experiments in this direction for the *Comptes Rendus*, which show that at very high temperatures compound gases become separated into their elements, and that at such temperatures these gases have no distinct action on each other. He heated metal in a fire of coal and wood charcoal to such a temperature that platinum was easily fusible in it. The experiment was conducted in a porcelain tube, from which the gases were afterwards collected. The analysis of these by M. Peligot gave the following result:

Oxygen	15.24
Hydrogen	1.80
Carbonic oxyd	2.10
Carbonic acid	3.60
Nitrogen	77.86
	100.00

These results proved that oxygen has no action upon hydrogen, carbon, or carbonic oxyd, in the midst of a combustible mass which is maintained at a temperature higher than that of the fusing point of platinum.

THE CONDITIONS UNDER WHICH IRON RUSTS. Few persons really understand this question or know the cause. The rusting of iron, which proceeds so rapidly when it is exposed to air, is caused by the attraction which the metal has for oxygen. It is very remarkable that iron is unable to combine with the free oxygen always in the air, but is liable to take it from water, its compound with hydrogen; for we find that in dry iron remains bright and clean for a long time, but very rapidly rusts when exposed to the joint action of air, carbonic acid gas and moisture, under which circumstances water is decomposed and oxyd of iron is formed.

ELECTRICITY IN STEAM BOILERS.—Dry steam has electric properties; when in a gaseous state it is a non-conductor of electricity. The electric discharges which may be obtained from dry steam, are supposed to attend the process of coalescence. A small steam boiler, insulated upon a glass plate, was recently exhibited for some considerable time at the Polytechnic Institution in Paris. Under a pressure of steam, continuous electric flashes were discharged from the boiler.

FIRE FROM FRICTION.—The jungles of India are often set on fire by the larger bamboos, as they are swayed by the wind, emitting fire from their hard, glossy stems through the violence of their friction, and thus spreading destruction through adjacent mountain forests. These are so extensive that the fire often continues to burn for many days together, and is suddenly extinguished by mighty deluges of rain so common in mountainous countries where water pours from clouds resembling small cataracts.

TEST PAPERS, used by chemists and others, are made by dipping sized paper into a solution of vegetable matter which will change color when subjected to the action of an acid or alkaline solution. Litmus and tumeric are most commonly used as a coloring matter—litmus for the detection of acids, and tumeric for that of alkalies. Such paper, after being dried, is cut into slips convenient for use. By dipping the appropriate test papers into any solution, we can readily ascertain whether it is acid, alkali or neutral.

ANIMALCULES.—The polishing stone obtained in Bohemia, has been computed to contain 41,000,000,000 skeletons of animalcules in each cubic inch; or 187,000,000 in each grain of weight of the slate. One of these skeletons would therefore weigh about one 187-millionth part of a grain.

At a white heat all magnetism disappears; it is still sensible in iron when heated to a dark red glow.

QUININE IN HUMAN TISSUE.—Among the novelties in organic chemistry, we may allude to the discovery of Drs. Bence Jones and Dupre of a substance resembling quinine in all the tissues of the body—resembling quinine, that is, in being precipitable by the same reagents, and in being possessed of the property of fluorescence. About the chemical composition of the substance nothing is as yet known or has been made public. The substance is obtained by first treating the animal matter with a dilute acid, then neutralizing the acid solution with an alkali, and subsequently extracting the fluorescent substance with ether. Not having as yet obtained the substance in a crystalline form, the discoverers have provisionally named it Animal Quinoidine. It deserves to be mentioned that the experiments undertaken in the course of this research showed the extreme delicacy of the fluorescence test for quinine itself. The author found that a grain of quinine dissolved in one million eight hundred parts of water showed the blue fluorescence distinctly in twenty grains of the solution.

SOME NEW COMPOUNDS OF SULPHUR AND CARBON have been obtained by O. Loew. Sesquisulphide of carbon is an amorphous brown body, which decomposes into its constituents when heated to 210° C, indicating a loose state of combination of the elements. A hydrosesquisulphide of carbon is also a brown amorphous body, having a faint odor of garlic. When this body is boiled with alkalies it gives oxalic acid and lower sulphides of carbon. By acting on a chloriac compound of hydrosesquisulphide of carbon dissolved in bisulphide of carbon, with a solution of bromine in bisulphide, the author obtained a body which appeared to be monosulphide of carbon, but found it impossible to procure the compound perfectly pure.

HOW TO OBTAIN CRYSTALLIZED CARBON.—M. Lioanet communicated to the Paris Academy a process for obtaining carbon (diamond) in a crystallized state. His plan consists in taking a long and thin gold or platinum leaf, rolling upon it a thin piece of tin foil, and putting it into a bath of sulphuret of carbon. The liquid is decomposed under the influence of the weak electric current thus excited, the sulphur combines with the tin, and the carbon is deposited in crystals at the bottom of the vessel. The author thinks diamond must be produced by nature in a similar way.

A NEW ALKALOID.—M. Hesse, in examining the red poppy for morphia, has discovered a new alkaloid, in which he has named Rhœadine, and which he says is also to be found in good opium. It is soluble in water, alcohol, and ether, crystallizing from the last in white prisms. Ammonia precipitates it as a white crystalline floculi, bichloride or mercury gives a white amorphous precipitate, and chloride of gold a yellow precipitate. Strong acids decompose it, giving it a purple solution.

AN INGENUOUS MODE of getting a correct representation of an actual battle, landscape, etc., in a panoramic form, has been suggested in Paris. The main feature is the arrangement is a revolving cylinder, with a vertical slit in it, through which the images, etc., enter, and are thrown on a photographic medium properly sensitized.

ELECTRICITY IN BLOOD, ETC.—By using delicate gold electroscopes, indications of static electricity have been obtained from living blood, nerve tissues and muscular fiber.

It has been ascertained that nitrogen in large quantities is so necessary to the life of plants that vigorous vegetation cannot take place if there is no other supply of nitrogen than the air.

In burning carbon to carbonic oxyd, a pound of oxygen generates only 2,962 units of heat; while, in burning this carbonic oxyd into carbonic acid, a pound of oxygen generates 4,258 units of heat.

The divisibility of copper is so great that a grain of it dissolved in an alkali will give a sensible color to 500,000 times its weight in water.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, November 17.

72 shs Ophir at 190 per foot.
 12 shs Ophir at 182½ per foot b 30.
 5 shs Bullion at 18 per share, b 30.
 5 shs Bullion at 16½ per share b 30.
 10 shs Bullion at 16 per share, s 30.
 70 shs Bullion at 16½ per share.
 1 shs Belcher at 110 per foot.
 10 shs Spring Valley W Co at 60½ per sh.
 8 shs San Francisco Gas Co at 60 per ct.
 16 shs Crown Point at 900 per foot.
 11 shs Confidence at 60 per share.
 5 shs Imperial at 127 per share, b 30.
 5 shs Imperial at 124 per share, h 10.
 5 shs Imperial at 125½ per share, b 30.
 5 shs Imperial at 122½ per share.
 1 shs Savage at 1660 per foot.
 6 shs Overman at 40 per share, h 30.
 5 shs Overman at 37½ per share, s 30.
 10 shs Overman at 38 per share b 30.
 10 shs Overman at 37½ per share b 30.
 10 shs Overman at 34 per share, s 30.
 10 shs Overman at 35 per share, h 30.
 10 shs Overman at 33 per share b 30.
 10 shs Overman at 32 per share, s 10.
 81 shs Overman at 40½ per share.
 15 shs Chollar-Potosi at 221 per foot, b 30.
 10 shs Chollar-Potosi at 220 per foot b 30.
 5 shs Chollar-Potosi at 215 per foot, s 10.
 50 shs Chollar-Potosi at 225 per foot.
 50 shs Chollar-Potosi at 205 per foot.
 27 shs Chollar-Potosi at 205½ per foot.
 1 shs Yellow Jacket at 900 per foot b 30.
 1 shs Yellow Jacket at 850½ per foot b 30.
 16 shs Yellow Jacket at 892½ per foot.
 16 shs Yellow Jacket at 820 per foot.
 \$2,000 Legal Tender Notes at 71½c.
 \$5,000 Legal Tender Notes at 71c.

Amount of sales.....\$ 96,717 00

Monday, November 19.

24 shs Ophir at 155 per foot, s 20.
 10 shs Ophir at 172½ per foot.
 92 shs Ophir at 155 per foot.
 30 shs Ophir at 155 per foot.
 30 shs Ophir at 160 per foot.
 20 shs Overman at 27 per share, s 10.
 10 shs Overman at 29 per share, b 30.
 30 shs Overman at 28 per share, b 30.
 100 shs Overman at 35 per share.
 60 shs Overman at 26 per share.
 10 shs Confidence at 62½ per share.
 5 shs Confidence at 61 per share b 30.
 20 shs Chollar-Potosi at 203½ per foot.
 7 shs Chollar-Potosi at 209 per foot.
 6 shs Chollar-Potosi at 205 per foot, s 30.
 1 shs Chollar-Potosi at 206 per foot, s 30.
 5 shs Chollar-Potosi at 208 per foot, s 10.
 10 shs Bullion at 18 per share.
 6 shs Imperial at 127½ per share, h 30.
 1 shs Imperial at 123½ per share.
 2 shs Yellow Jacket at 890 per foot, h 10.
 2 shs Yellow Jacket at 880 per foot, s 30.
 2 shs Yellow Jacket at 910 per foot, b 10.
 4 shs Yellow Jacket at 880 per foot.
 1 shs Yellow Jacket at 910 per foot.
 1 shs Yellow Jacket at 900 per foot.
 3 shs Yellow Jacket at 910 per foot.
 100 shs Sierra Nevada at 2½ per share.
 70 shs Sierra Nevada at 2½ per share.
 3 shs Empire M & Co. at 130 per share.
 1 shs Savage at 1640 per foot, s 20.
 1 shs Savage at 1645 per foot.
 4 shs Crown Point at 890 per foot.
 \$2,000 Legal Tender Notes at 71½c.

AFTERNOON SESSION.

8 shs Gould & Curry at 500 per foot.
 43 shs Ophir at 162½ per foot.
 12 shs Ophir at 163 per foot.
 4 shs Crown Point at 800 per foot.
 4 shs Chollar-Potosi at 205 per foot.
 24 shs Chollar-Potosi at 200 per foot.
 5 shs Chollar-Potosi at 200 per foot s 10.
 4 shs Chollar-Potosi at 202½ per foot, s 3.
 5 shs Chollar-Potosi at 202½ per foot.
 5 shs Chollar-Potosi at 201 per foot.
 1 shs Chollar-Potosi at 200 per foot s 3.
 5 shs Chollar-Potosi at 207½ per foot, b 30.
 5 shs Chollar-Potosi at 199 per foot, s 30.
 5 shs Chollar-Potosi at 200 per foot, h 30.
 1 shs Chollar-Potosi at 198 per foot.
 1 shs Chollar-Potosi at 200 per foot, s 5.
 16 shs Confidence at 60 per share, s 3.
 10 shs Overman at 26 per share.
 30 shs Overman at 30 per share b 30.
 20 shs Overman at 23 per share s 30.
 15 shs Overman at 28 per share, b 10.
 5 shs Overman at 27½ per share.
 5 shs Overman at 30 per share b 5.
 5 shs Overman at 23 per share.
 10 shs Overman at 27½ per share, s 3.
 30 shs Overman at 25½ per share, s 30.
 20 shs Overman at 26 per share, s 30.
 5 shs Overman at 27 per share.
 15 shs Overman at 27 per share.
 10 shs Overman at 26 per share, s 20.
 20 shs Bullion at 18 per share, s 3.
 6 shs Bullion at 18½ per share.
 30 shs Bullion at 19 per share, s 30.

Amount of sales.....\$ 64,362 50

Tuesday, November 20.

15 shs Chollar-Potosi at 195 per foot, s 30.
 91 shs Chollar-Potosi at 200 per foot, b 30.
 71 shs Chollar-Potosi at 195 per foot, b 30.
 5 shs Bullion at 24 per share, b 30.
 45 shs Bullion at 21 per share.
 40 shs Bullion at 23 per share.
 2 shs Savage at 1690 per foot.
 2 shs Savage at 1710 per foot.
 12 shs Ophir at 170 per foot.
 12 shs Ophir at 180 per foot, b 30.
 100 shs Ophir at 167½ per foot.
 55 shs Ophir at 190 per foot.
 5 shs Belcher at 150 per foot, b 30.
 13 shs Belcher at 125 per foot.
 5 shs Overman at 25 per share, b 10.
 10 shs Overman at 25½ per share s 10.
 100 shs Overman at 27 per share.
 21 shs Overman at 25 per share.
 3 shs Yellow Jacket at 800 per foot s 30.
 1 shs Yellow Jacket at 855 per foot s 30.
 1 shs Yellow Jacket at 835 per foot

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, November 24th, 1866.

The Money Market has exhibited no marked change since our last issue, if we may except a slight tendency to greater ease. Deposits continue to flow into Bank with more freedom, and there is evidently more capital for discount purposes than for some time past. The wants of the business community are not very urgent at present, all the facilities they require are readily obtainable at current rates of interest—1¼@1½ per cent. per month. The continued activity and buoyancy of the mining share market furnishes an outlet for the employment of considerable money, but capitalists and others are somewhat reluctant to loan upon this class of securities, except at a margin that renders the operation comparatively safe, exacting at the same time very full rates of interest—in some instances from 2 to 3 per cent. per month.

Legal Tenders have been quite active during the week, and by the very material fall of gold in New York the appreciation here has been from 2 to 3 per cent. Sales were made yesterday at 73@72½ closing at 72½ bid, and 72¾ asked.

Gold Bars quoted at 840@845, and an improvement is anticipated over these rates for next steamer purposes. Silver is selling at 1@1¼ per cent. discount.

Currency bills on the Atlantic cities are offered at 30 per cent. premium on gold. Our latest dispatches quote Gold in New York as low as 137@139, weak. Sterling 109½.

Sight Drafts, payable in coin, are selling at 2¼ per cent. premium, and Telegraphic Transfers are made at 3 per cent. premium. Bankers' Sterling, best 60 days' bills, rule at 49d; Commercial do. 49½d@50.

City Stocks are inactive. We note sales of California Steam Navigation Co. at 66@65½ per cent; Spring Valley Water Co. at 60½; and San Francisco Gas Co. at 65@64. For the Bank of California \$140 per share is asked.

The share market since Saturday has been somewhat variable and irregular. Most stocks are stronger, and have been dealt in at enhanced rates, and the general line of transactions in the Board have more or less sympathized with this appreciation. No important developments have been made during the past week, if we except the ascertainment of the continuous deposit of 100 feet of ore from the sixth to the seventh level in this Savage mine. The present activity in the market carries with it a speculative feeling, and the transactions in the Board for the week are largely in excess of a like period for a long time past.

Crown Point opened at \$900, receded to \$800, advanced to \$860, then sold at \$850@875, and at the close \$890 per foot is asked. We are informed that at the connection made by the incline at the fourth level, the ore looks very good, and that there is also some improvement in going south. During the week ending Nov. 17th, 597 tons of ore were raised from the mine; the previous week 658 tons. On the 19th inst., the mine produced 103 tons of ore.

Chollar-Potosi sold early in the week at \$225, buyer 30, then at \$200@205, declined to \$180@187.50, advanced to \$207.50, and closed at \$200. It is said that the first station drift in the new shaft reveals a body of ore 13 feet wide. Sampled lots from this drift show a large percentage of gold. At a later date, the indications in this drift, it is thought, were not so favorable. The Blue Wing station is said to look quite encouraging. It continues to carry a very large amount of low grade ores. The 700-foot station in the new

shaft has been reached, and drifting will soon be commenced. This company sent 694½ tons of ore to custom mills during the week ending Nov. 18th; the previous week 553½ tons.

Savags sold at \$1,660@1,645, jumped to \$1,710 and \$1,740, then sold at \$1,735@1,730, improved to \$1,760, and closed at \$1,775. On the sixth level, the southeast face still continues in good ore, and the upper floors are also said to be in fine ore. The second winze from the sixth to the seventh level is completed; it passed through good ore the entire distance of one hundred feet between the two stations. The seventh station produces as good average ore as is obtained in the sixth. In the south mine, Curtis' shaft, the ore is said to be more abundant than was expected, but is somewhat inferior to the quality produced where the deposit was narrower. The north drift from the same shaft is being rapidly advanced to connect with winzes No. 3 in the seventh level, the latter having gained a depth of eight feet—both drift and winze being in good ore. During the week, ending Nov. 17, this two stations in the Curtis shaft yielded 744 tons of ore, and during the same period 1,971 tons of ore were extracted from all parts of the mine, giving an approximate assay value of \$85,435—\$43.34 per ton—and leaving an estimated profit of \$47,623 after deducting all expenses.

Yellow Jacket was not dealt in to so large an extent as during the previous week, opening at \$900, buyer 30, receding to \$820, advancing to \$910, falling to \$885, gradually improving to \$935@960, and closing at \$930. The south mine, it is said, is still producing 125 tons of mill ore per day. On the 15th inst., they were 80 feet from the new level. In the north mine they have drifted about 60 feet east, and have still 80 feet to run to reach the ledge. No weekly reports have reached the office in this city since the October balance sheet was rendered, and it is difficult to gain any information in regard to the late appreciation of this stock.

Hale & Norcross continues out of the market. Some ask \$2,000 per foot. The yield of ore from this mine, it is said, is fully up to previous months, and this bullion receipts for the present month will be as large as formerly.

Gould & Curry is inactive; a few feet were sold for \$500; at the close we quote it at \$525 asked. We learn that the ore in this mine is improving in quality.

Ophir realized \$190 per foot early in the week, and then sold at \$155@160, improved to \$190@172½, receded to \$165, advanced to \$175@185, and closed at \$190. We learn nothing new in regard to the recent new developments.

Empire Mill and Mining Co. sold at \$130, and at the close \$130 is asked. The yield of bullion from this mine for the present month, it is said, will be equally as large as during the previous month.

Imperial opened at \$127, buyer 30, then sold at \$124@125, and closed at \$128. The receipts of bullion up to the 17th aggregated about \$29,000. The new shaft has attained a depth of 685 feet. It is said that the ore now extracted from the Alta mine is of a better quality.... Belcher was sold at \$110, then at \$135@125, and at the close \$125 is asked.

Confidence was in the market to a larger extent than for some time past, over 100 shares changing hands; selling at \$60, improving to \$62½@63, and closing yesterday at \$61, seller 3.... Bullion also changed hands more freely, opening at \$16, then selling at \$23, receding to \$16@17, and closing at \$17½. The publication of the delinquent list was postponed till to-day.... Overman was quite active, and over 2,000 shares were sold, opening at \$40, dropping to \$26, then selling at \$16, and closing yesterday at \$18¾. The expectations of striking the lead in the 450-foot level, have been dissipated. Work has already progressed beyond the point where it was supposed the lead would be found.

Alpha sold at \$50 per foot, and Sierra Nevada receded from \$2.62½ to \$2, and at the close \$2 is bid.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$666,461.

2 shs Yellow Jacket at 990 per foot.
 20 shs Cal Steam Nav Co at 66 per cent.
 1 shs Imperial at 124 per share.
 5 shs Imperial at 125 per share.
 12 shs Crown Point at 890 per foot.
 12 shs Crown Point at 890 per foot.
 \$10,000 Legal Tender Notes at 72c s 30.
 \$13,000 Legal Tender Notes at 72@72½c.

AFTERNOON SESSION.

1 shs Belcher at 135 per foot, b 30.
 5 shs Belcher at 135 per foot.
 5 shs Belcher at 130 per foot.
 5 shs Bullion at 23½ per share h 30.
 25 shs Bullion at 24 per share, h 30.
 20 shs Bullion at 22 per share.
 25 shs Bullion at 22½ per share.
 24 shs Ophir at 185 per foot, b 30.
 24 shs Ophir at 170 per foot, s 30.
 12 shs Ophir at 175 per foot.
 24 shs Ophir at 172½ per foot.
 10 shs Chollar-Potosi at 190 per foot b 30.
 5 shs Chollar-Potosi at 200 per foot s 30.
 27 shs Chollar-Potosi at 200@205 per ft.

17 shs Confidence at 62½ per share.
 1 shs Yellow Jacket at 890 per foot s 30.
 1 shs Yellow Jacket at 925 per foot b 30.
 2 shs Yellow Jacket at 890 per foot.
 10 shs Yellow Jacket at 912½ per foot.
 5 shs Overman at 25 per share, s 10.
 6 shs Overman at 27 per share, h 30.
 25 shs Overman at 25 per foot.
 30 shs Overman at 26 per share.
 2 shs Savage at 1710 per foot.
 1 shs Savage at 1740 per foot.
 10 shs Crown Point at 825 per foot.
 6 shs Crown Point at 830 per foot.
 16 shs Imperial at 125 per share.
 65 shs Imperial at 123 per share, b 30.
 50 shs Imperial at 123 per share, b 30.
 20 shs Imperial at 127½ per share, b 30.
 10 shs Imperial at 127 per share, h 30.
 \$20,500 Legal Tender Notes at 72½c.

Amount of sales.....\$162,351 50

Wednesday, November 21.

12 shs Ophir at 172½ per foot s 10.
 35 shs Ophir at 180 per foot, h 30.
 100 shs Ophir at 165 per foot.
 65 shs Ophir at 172½ per foot.
 30 shs Sierra Nevada at 2½ per share.

30 shs Sierra Nevada at 2 per share.
 47 shs Confidence at 63 per share.
 5 shs Bullion at 20 per share b 30.
 5 shs Bullion at 21 per share b 30.
 45 shs Bullion at 18½ per share.
 33 shs Chollar-Potosi at 190@187½ pr ft b 30.
 17 shs Chollar-Potosi at 181@185 pr ft s 30.
 40 shs Chollar-Potosi at 185 per foot.
 41 shs Chollar-Potosi at 185 per foot.
 10 shs Imperial at 126 per share, b 30.
 5 shs Imperial at 124 per share, s 30.
 20 shs Imperial at 126 per share.
 26 shs Imperial at 124 per share.

4 shs Yellow Jacket at 935 per foot, h 10.
 3 shs Yellow Jacket at 925 per foot b 10.
 5 shs Yellow Jacket at 925 per foot.
 4 shs Yellow Jacket at 812½ per foot.
 50 shs Overman at 26 per foot.
 50 shs Overman at 20 per share.
 20 shs Overman at 20 per share.
 35 shs Overman at 21½ per share
 \$5,000 Legal Tender Notes at 72c.

AFTERNOON SESSION.

2 shs Yellow Jacket at 910 per ft, s 3.
 9 shs Yellow Jacket at 910 per foot.
 1 shs Yellow Jacket at 930 per foot b 30.
 2 shs Yellow Jacket at 910 per ft b 3.
 7 shs Chollar-Potosi at 190 per ft b 30.
 6 shs Chollar-Potosi at 191 per foot b 30.
 6 shs Chollar-Potosi at 155 pr ft, s 3.
 10 shs Chollar-Potosi at 192½ per foot, h 30.
 5 shs Chollar-Potosi at 187½ per foot.
 5 shs Chollar-Potosi at 187½ per ft s 3.
 8 shs Chollar-Potosi at 195 per foot, b 30.
 15 shs Crown Point at 190 per share b 3.
 3 shs Chollar-Potosi at 190 per foot.
 5 shs Chollar-Potosi at 190 per foot b 5.
 3 shs Savage at 1735 per foot.
 1 shs Savage at 1730 per foot.
 1 shs Savage at 1730 per foot, s 30.
 2 shs Belcher at 125 per foot.
 24 shs Ophir at 175 per foot s 3.
 100 shs Ophir at 175 per foot.

32 shs Ophir at 175 per foot.
 10 shs Overman at 20 per share.
 10 shs Overman at 18 per share.
 10 shs Overman at 18 per share.
 10 shs Overman at 17 per share.
 25 shs Overman at 16½ per share
 5 shs Overman at 16 per share, s 10.
 10 shs Overman at 17 per share, b 30.
 35 shs Overman at 16 per share.

5 shs Overman at 16 per share, s 5.
 6 shs Overman at 16 per share, s 3.
 20 shs Overman at 15 per share
 1 shs Confidence at 62 per share.
 10 shs Confidence at 63 per share.
 6 shs Bullion at 16 per share.
 10 shs Imperial at 124 per share, s 3.
 5 shs Imperial at 124 per share.
 5 shs Imperial at 125 per share s 3.
 16 shs Cal Steam Nav Co at 66 per cent.

Amount of sales.....\$104,006 00

Thursday, November 22.

100 shs Ophir at 180 per foot, b 30.
 44 shs Ophir at 190 per foot b 30.
 100 shs Ophir at 170 per foot.
 44 shs Ophir at 182½ per foot.
 55 shs Overman at 15½ per share b 30.
 20 shs Overman at 13½ per share, s 10.
 20 shs Overman at 14@12½ per share.
 21 shs Chollar-Potosi at 210@210 pr ft b 30.
 10 shs Chollar-Potosi at 200@215 pr ft s 30.
 44 shs Chollar-Potosi at 205@195 pr foot.
 1 shs Imperial at 126 per share.
 6 shs Savage at 1750 per foot.
 6 shs Savage at 1760 per foot.
 10 shs Crown Point at 850 per foot.
 10 shs Crown Point at 875 per foot.
 4 shs Alpha. O. H. at 50 per foot.
 6 shs Cal Steam Nav Co at 66 per cent.
 1 shs Yellow Jacket at 908 per foot, s 30.
 2 shs Yellow Jacket at 927½ per foot, b 30.
 7 shs Yellow Jacket at 910 per foot.
 7 shs Yellow Jacket at 925 per foot.
 10 shs Bullion at 17 per share
 \$7,000 Legal Tender Notes at 72½c.
 \$5,000 Legal Tender Notes at 72½c.
 \$2,000 Legal Tender Notes at 73c s 3.

AFTERNOON SESSION.

6 shs Overman at 18½ per share, b 30.
 15 shs Overman at 15 per share, s 10.
 5 shs Overman at 16 per share b 30.
 10 shs Overman at 15 per foot, s 10.
 40 shs Overman at 15 per share.
 40 shs Overman at 18 per share.
 100 shs Overman at 18 per share.
 100 shs Overman at 16 per share.
 12 shs Ophir at 192½ per foot, b 20.
 12 shs Ophir at 192½ per foot, b 20.
 70 shs S. F. Gas Co. at 64½ per cent.

10 shs S. F. Gas Co at 64 per cent
 2 shs Belcher at 125 per foot.
 10 shs Sierra Nevada at 2½ per share.
 10 shs Imperial at 128 per share.
 10 shs Chollar-Potosi at 213@215 pr ft b 30.
 45 shs Chollar-Potosi at 205@207½ pr foot.
 5 shs Yellow Jacket at 915 pr ft s 30.
 1 shs Yellow Jacket at 925 per foot s 30.
 1 shs Yellow Jacket at 975 per foot, b 15.
 10 shs Yellow Jacket at 935 per foot.
 15 shs Yellow Jacket at 960 per foot.

Amount of sales.....\$131,722 00

Friday, November 23.

20 shs De Soto at 3½ per share.
 100 shs Sierra Nevada at 2½ per share.
 183 shs Ophir at 183 per foot.
 63 shs Ophir at 185 per foot.
 40 shs Ophir at 183 per foot, b 30.
 5 shs Belcher at 18 per foot.
 6 shs Chollar-Potosi at 205@210 pr ft b 10.
 60 shs Chollar-Potosi at 210@215 pr foot.
 55 shs Chollar-Potosi at 210@207 per foot.
 60 shs Chollar-Potosi at 210@207 per foot, s 30—\$100 paid for priv. to deliver.
 4 shs Crown Point at 880 per foot.
 18 shs Overman at 17 per share, s 10.
 25 shs Overman at 17 per share, s 30.
 20 shs Overman at 15 per share.
 5 shs Imperial at 130 per share, h 30.
 5 shs Imperial at 129 per share, h 30.
 5 shs Imperial at 128 per share, s 30.
 5 shs Confidence at 61 per share, s 30.
 5 shs Yellow Jacket at 955@977½ pr ft h 30.
 2 shs Yellow Jacket at 975 per foot, h 15.
 2 shs Yellow Jacket at 965 per foot.
 2 shs Savage at 1770@1765 pr foot.
 6 shs Cal Steam Nav. Co. at 66 per cent.
 \$1,000 Legal Tender Notes at 73c.

AFTERNOON SESSION.

30 shs Overman at 17½@18½ per share.
 84 shs Ophir at 190 per foot b 20
 5 shs Confidence at 61 per share s 30.
 5 shs Confidence at 61 per share, s 3.
 15 shs Chollar-Potosi at 210@215 pr ft s 10.
 5 shs Chollar-Potosi at 195 per foot, s 30.
 23 shs Chollar-Potosi at 208½@210 pr ft
 16 shs Crown Point at 890 per foot.
 10 shs Bullion at 17½@18 per share.
 3 shs Savage at 1760@1775 per foot, b 6.
 6 shs Cal Steam Nav Co at 66 per cent.
 1 shs Cal Steam Nav Co at 66½ per cent.
 5 shs Cal Steam Nav. Co. at 65 per ct, s 30
 5 shs Yellow Jacket at 950@940 pr ft b 30.
 1 shs Yellow Jacket at 940 per ft s 30.
 4 shs Yellow Jacket at 975 per foot.
 3 shs Yellow Jacket at 925 per foot.
 15 shs Yellow Jacket at 925 per foot.
 5 shs Yellow Jacket at 930 per foot.
 Amount of sales.....\$116,832 00

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Amador County—

From the *Ledger* of November 17th: Stuart & Cronise, at Middle Bar, crushed fifteen tons of rock from a new lode near the bar that yielded \$81.62 per ton. Pretty fair for "top rock." . . . Craft & Dane, of Pine Grove, have a very large fine quartz lode near the grove, which promises to soon make a good showing. Unaided, they have kept their work moving most of the time night and day during the past summer and fall. . . . David Fake & Co. have found some splendid prospects on the main flat at Pine Grove. The upper and lower ends of the flat were rich, but the middle portion has been unworked, in consequence of the great depth and the amount of water. Fake & Co. will erect a large whim. . . . J. F. Bradshaw has been working a claim on Negro Gulch, and often pans out from five to ten dollars per day. Hawkins & Co. have panned out as high as twenty-five dollars in a day.

At no period within the history of quartz mining in Amador, has the fall campaign opened so vigorously as at the present, and it is safe to assert that nearly, if not quite, double the work is being done than at any former time. Experience has demonstrated, what we have for the past two years labored to prove, that no business, whether for the laborer or capitalist, pays as well as quartz mining, when judiciously managed. Scores of miners in this county, as elsewhere, are to-day worth fortunes that two years ago, many of them not less than one year ago, were not considered worth a dollar. Capitalists are becoming reassured, and it is now only necessary, in this part of Amador, for the prospector to show a chance for a mine and he can readily obtain the means necessary for development.

Humboldt County—

From the *Times* of November 10th: We learn that Mr. Wentworth, the superintendent of the Union Oil company, has all the machinery of the Jeffrey company on the ground of the former, and that it will be set up and ready to commence operations early the next week. The Irwin Davis well is down something over thirteen hundred feet.

Kern County—

From the *Havilah Courier* of November 17th: A run of six days on the Joe Walker gave a return of \$12,000. . . . We have the figures to show that the mines of Kern county recently yielded, in six days, the sum of \$200,566. . . . Long Primmer Hall has sold no interest in his mine for a good price.

Calaveras County—

From the *San Andreas Register* of Nov. 17th: A Mexican has struck the celebrated "Fairplay" lead, as it comes out on Indian Creek. The rock is full of fine gold, visible to the naked eye, and the lead is as wide as where it was originally discovered, over five feet. Several of our townsmen have been fortunate enough to get interests therein. . . . Mr. William Irvine has got his mill in successful operation at El Dorado. A gentleman who was there informs us that Mr. I. has struck it enormously rich. Upwards of two thousand dollars were raised in one blast.

Colonel Bowman, proprietor of the celebrated Pink Smith lead, located on the South fork of the Mokelumne river, near Mosquito Gulch, in Calaveras County, has recently disposed of it for \$50,000 in gold coin. A large mill will be immediately erected on the lead by the gentleman who purchased it.

Contra Costa County—

From the *Contra Costa Gazette* of Nov. 17th: We have been shown a sample of very good coal from the Pacheco coal mine, which is located, as we understand, about a mile west of Clayton. The width of the vein is said to be six feet on the outcrop. The company have run a tunnel about ninety feet, striking the vein only thirty feet below the outcrop, where they find it four feet wide, and of the quality shown. The promise of this vein is very satisfactory.

El Dorado County—

The Placerville correspondent of the *Alta*, writing under date of Nov. 17th, confirms the reports of the rich strike in the Woodside mine. He says: The mass or slab of gold mentioned in your telegram has not been taken out. It stands there, nevertheless, a monument to helie the oft-repeated assertion that our "mines have given out." In order to take this mass of gold out intact, the company are sinking down eight or ten feet, and will block it out whole if possible. The depth of the shaft now is 125 feet.

The parties who have purchased the Pacific mine have contracted to go down 300 feet, ledge or no ledge, and the work is being driven night and day.

The same writer says that several cement or gravel claims in the vicinity are yielding

largely. "So far the results have been astonishing, inasmuch as heretofore this sort of stuff has not been considered of much account. I can say with safety that there are acres of this belt unclaimed and open to location; working interests are freely offered by parties who have not sufficient means to properly work their claims."

A correspondent of the *Sacramento Union*, writing from Georgetown, Nov. 12th, also confirms the newspaper accounts of the Woodside mine.

Nevada County—

From the *Gazette* of November 17th: The Boston Ravine ledge has been lying idle until quite recently, when the owners commenced sinking an incline. At the depth of forty feet they struck water in such quantities as to render it difficult to proceed with the work, and have suspended operations for the present. The ledge is very regular, being about eighteen inches in width, the rock containing free gold and sulphurets. The quality of the ore rapidly improved with the depth reached on the ledge.

From same of 19th: A company of Germans are working a quartz ledge at Wood's Ravine, by sluicing. The quartz rock, together with as much of the censing as it is necessary to take out in running tunnels and drifts, is dumped on a pile, from whence it is shoveled into sluices. A large quantity is already out, and will be washed up as soon as they can obtain water. The rock is mostly decomposed, and the ledge is spotted, paying largely in some places and but little gold being found in others.

Craig & Co., whose diggings are situated on Oustemah Hill, expect to begin washing gravel to-day—having out already about a thousand tons to commence on. The diggings are drained by a bedrock tunnel, and the gravel is hoisted to the surface by a whim, through a double shaft. The gravel prospects finely, and the owners have the best reason to anticipate a rich reward for their energy and perseverance.

Same of 20th: Eureka township has already become of considerable importance. Last year there was but one quartz mill in the township, that of the Jeffersonian company, near Bowman's; but four new mills have been put up during the present season, two of which are completed and the other two nearly so. The Lamborn mill has recently been leased to the owners of the Liberty ledge, who are making arrangements to put it in operation. The mill of Hunt, Curtis and others, erected on the Jim ledge, is nearly completed; so also is the mill erected by Puttee on the Grizzly ledge. In addition to these, an arastra mill has just been erected by Booth & Co. In the Glenbrook mine, the rock thus far crushed has mostly come from the upper drifts, and these only furnish enough to keep the mill running about half the time, and is got out at considerable disadvantage. In the course of a few weeks they expect to be able to keep the mill running constantly. The principal office of the Jeffersonian company has been removed to San Francisco.

Same of 21st: At the Cornish mine and mill they have been carrying on operations vigorously, and have out now some fifty or sixty tons of as fine looking sulphuret ore as we ever saw. This was all taken out in running the tunnel. In some of the ore free gold is visible, but its richness mainly consists of the sulphurets. The ledge is from three to four feet in width, and the entire vein rock is saved for crushing. The mill is run by water power, has six stamps, and will crush about ten tons in twenty-four hours. They will commence crushing in the course of a week or two, by which time they will have enough rock on hand, with what can be taken out, to keep the mill running steadily.

From the *Grass Valley Union* of November 17th: We are informed, through a reliable source, that the Illinois and Wisconsin Consolidated mine, near this place, is now turning out ore which will average \$250 per ton. The quartz is not what would generally be called specimen rock, but it is well filled with fine gold. This is one of the old mines of Grass Valley, which for years was under a cloud of litigation.

A correspondent of the *Transcript* states that many of the miners are returning to the "old camping ground" at Rush Creek, and are now engaged in developing the quartz ledges of that locality. In the past few weeks seven or eight promising ledges have been located, among them the Great Eastern, Vanderbilt, Essex, Shakspeare, Rough Diamond, Excelsior and Golden Eagle, all of which show most encouraging prospects. The Golden Eagle is located about a quarter of a mile from Chapman's ranch.

Excelsior. — The *Transcript* of the 14th instant says: We are informed by a gentleman who came down from Meadow Lake district on Monday, that a large number of people will winter in the new district, and a number of companies will work through the winter. The Excelsior mill is kept in constant operation and the rock is yielding well. A new mill is

being erected near the Excelsior, which it is expected will soon be ready to start. The Grant mill has been stopped for a few days, to enable the owners to put in a permanent flume in place of the temporary structure through which they have been running water. The mine is yielding handsomely, and the mill will start up again on next Monday. During the last storm, snow fell to the depth of eighteen inches at Meadow Lake.

Placer County—

The *Stars and Stripes* of Nov. 21st, says: An extensive formation of conglomerate or "pudding stone," exists at a point on the railroad above Alta, and a number of claims have been located on either side of the road. Gold is found in the formation, enough, it is thought, to pay for crushing. It has been pretty thoroughly prospected.

From the *Dutch Flat Enquirer* of Nov. 27th: We learn that there is a project on foot by some of our business men to make up a joint stock company to prospect for the blue lead, in this vicinity. Those who have taken the initiative step in this matter appear confident that the project is entirely a feasible one, and that the rich leads which have been worked with so much profit in our neighboring towns of Little York, You Bet and Red Dog in Nevada county, have a continuation in the claims here. They propose, as a prospecting operation alone, to form a joint stock company of twenty shareholders, with a paid up capital stock of two thousand dollars, or one hundred dollars each, by this means they will be enabled to ascertain beyond a doubt whether the blue cement exists in such quantities as will pay or not.

Plumas County—

Nelson Point correspondence of the *Marysville Appeal*, of Nov. 16th, has the following: Most of the companies on Nelson Creek were flooded out. It was a very sudden rise; the water came rushing over dams, leaping into holes and filling them up, suspending all work. Some of the companies were able to get in again with two or three days extra work; others have given it up and taken out their flumes. Murkin & Co., when the water drove them out, had a piece of ground stripped down to the high points of bed rock, on which the gravel prospected \$1.50 to the pan. They have been trying for the past week to get the water out, but have given it up. The flood at Nelson, coming all at once, has been attributed to the breaking away of a Chinese dam some six or seven miles above.

Shasta County—

From the *Courier* of Nov. 17th: W. H. Gooch informs us that the miners on Dog Creek are making active preparations for mining during the coming winter, and he anticipates a prosperous season for both miners and traders in that locality. . . . There will be more men at work on Mad Ox the coming winter than for several years past. Several new claims will be opened and thoroughly prospected by experienced miners. A nugget of gold, weighing twenty-two ounces, was found on this stream last week.

An effort is being made to form a company for the purpose of fluming Town Creek, near Pittsburg, which is known to contain rich gold deposits. The creek has never been mined much heretofore, on account of the heavy character of the diggings, but several fortunes have been taken from its bed in early days.

Sierra County—

From the *Downieville Messenger*, of Nov. 17th:—The town is alive with speculators and prospectors, daily bringing in rich specimens of ores from newly discovered lodes. We hear of several sales this week at advanced figures. Our Recorder appears to be doing a lively business; nearly ten miles of quartz lodes have been recorded thus far this month. . . . We have been shown a rich piece of ore from a newly discovered lode on the East Fork, two and one-half miles above town.

At Alleghany, the Union mill is the only one that is running at present. They anticipate a rich clean-up. The other mills have only stopped running for the present, while they are in search of more rock.

La Porte letter to the same, says:—All the talk now is of the "Big Thousands," which will be taken out the coming water season by Conly & Co., to say nothing of the smaller gravel banks in this vicinity.

The "Downieville Mining Company," reported in the Atlantic States as having failed, is not, as might have been supposed, in Sierra county. The *Messenger* says it is at Meadow Lake, Nevada county.

The *Nevada Gazette* never heard of such a mine, and thinks it never had existence, "except in the imaginations of confiding stockholders."

The same paper speaks of the comparative cost of working large veins, with nit levels and water power, and thin veins, with shafts and steam power. The writer takes, as two representative counties, Sierra and Nevada; and as the representative mine of Sierra, the Sierra Buttes mine. The following are the

items: Power from 8 to 25 feet, worked by nit levels, with inexhaustible backs; water power for propulsion in abundance; number of hands employed, 40; average wages, \$55 for 26 days, \$2,200; hoard, \$4 per week, \$594; candles, \$26; iron, steel, and coal, \$20; powder and fuse, \$70; shoes and dies (over estimate), \$400; extra for mill and other expenses, \$200; total expenses for 26 days, \$3,510. Crushing capacity, 26 days, 780 tons. Cost of quarrying and crushing, per ton, \$4.50. Against this he asks Grass Valley men to give facts and figures for some representative mine in that region of comparatively thin veins, worked by shafts and steam power.

Siskiyou County—

From the *Yreka Union* of Nov. 17th: The proprietors of the Siskiyou quartz lead, situated on Humboldt, are in a happy state of mind over the most flattering prospects for a fortune. A few days ago, at the bottom of their new shaft, they found the ledge to average three feet and a half in width, and containing the richest rock ever taken from any claim in this vicinity.

Tulare County—

From the *Times* of Nov. 17th: A gentleman has shown us some quartz which he says was obtained in the hills near town. The appearance was good. He pulverized some, that with a glass showed a large percentage of gold, much of which could be seen with the naked eye.

Yuba County—

A correspondent of the *Mountain Democrat* writing from Brownsville, November 6th, says: In July last, Talloch and others from Amador county discovered and opened a rich lode of gold-bearing quartz. They erected an 8-stamp mill upon it, and commenced crushing a fortnight ago, and in a run of less than twelve days got forty pounds of amalgam for their labor, valued between \$3,500 and \$4,000! There are a number of other claims here supposed to be equally rich.

The Brown's Valley miners, at their annual meeting, resolved that ten dollars' worth of work and improvements performed on each and every claim of 150 feet, annually, in order to hold the same, in addition to the annual representation, and that a sworn certificate of said work or improvements must be recorded with the mining recorder of the district; and that unless such certificate be recorded that said work has been done, then such claim or claims shall be forfeited. The owner of every 150 feet in such claim not worked, is required to perform on or before the 1st of January next labor to the amount of \$10.

NEVADA.

Washoe—

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

From the *Gold Hill News* of Nov. 13th: Mining stocks are gradually on the rise. All the mills from the mouth of Six-Mile Cañon to Washoe, and from Washoe to the extreme limits of Ormsby and Lyon counties, are employed. The old worn out mills are being rebuilt, and the capacity of many of our first-class mills being increased. Every day we see large wagons loaded with mill machinery on our streets, while all the teams in the whole country find constant employment in hauling quartz. Hundreds of miners who have been in outside districts during the summer, have, within the past month, returned to this county, and all who desired it have found employment at good wages. In short, we do not hesitate to say that times are more prosperous at the present time in the State of Nevada than they have been since 1863.

From the *Enterprise* of 16th: The Imperial and Empire Companies of Gold Hill, have received a portion of their new machinery, which will be erected at the new shaft, which is now down 700 feet. It is now the intention of the superintendent to commence drifting at the depth of 900 feet. All the machinery will be on the ground in a few days.

Reese River—

From the *Revelle* of Nov. 10th: Work will be immediately resumed in the Beal North Star mine, by Capt. Phillips, just returned from the East.

The Murphy mine, at Twin river, is yielding ore fully up to the expectations of the most sanguine. We are informed that seventy-one tons were reduced at the mill with the average yield of \$185.55 per ton, producing the handsome sum of \$13,174.05.

Same of 11th: In Hot Creek district, the erection of a light 10-stamp mill by the Consolidated Silver Mining Company of New York, is giving an impetus to work as well as trade. Mr. Gould, the agent of the company, has been successful in securing a good mill site, and is pushing on the building operations with great dispatch. . . . The "Old Joe" and "Old Jake," new locations, are deserving of notice. The former will be opened during the winter. The prospects of the district are very encouraging.

The same of the 15th, gives an account of a trip to Silver Peak district. We quote a paragraph: "The citizens of Belmont seem impressed that it will soon be a large city, and in that faith are living in great disregard of present comfort. To see men, ragged and dirty to the last degree, sleeping, cooking, and eating in the open air, without protection from the wind and dust, and coddling over their specimens and talking of hundreds of thousands, is interesting."

An editorial in same issue refers to the incredulity with which the *American Journal of Mining* receives the stories of large ledges and rich rock, which have from time to time been told by the *Reveille*. The article closes thus: "Our duty is to make statements of what we know, and if these are discredited we can do no more. We have lately published discoveries of the most astounding character made in the southeastern portion of the State; but these, although some of them are producing a great deal of interest, attract but little attention other than in our own neighborhood. Yet we do not despair. The great wealth of the country is an incontrovertible fact, and whether attracting the attention of capital or not at present, the day is very near at hand when those so cautious now will look back at our exertions with regrets at their incredulity, and that will be our reward."

[See communication in to-day's issue, confirmatory of these large stories.—Eps. Press.]

The Nye County *News* of Nov. 10th, says of Hat Creek district: "This district is about 110 miles southeast of Austin, and about 90 miles east of Lone. Already there is a good wagon road from Austin to the mines, and a stage running weekly, carrying passengers and mail. The ledges, as a general thing, are large and well-defined, showing much native and horn silver. As an instance, how little capable a man is to judge of the quality and richness of ores, a lot of four tons—two of first and two of second class—taken from the Gazelle mine, worked in a mill at Austin, first class over \$300 per ton, and second class over \$400 per ton. The second class, looking more barren, contained a greater proportion of native horn silver, and less of coloring of sulphurets. There are many claims in this district of the same character and quality of quartz that we find in the Gazelle, for instance, the Old Joe, Old Dominion, Indian Jim, Keystone, Oro, and many others, all large and well-defined, assays from some of these claims ranging as high as \$22,000 per ton. The facilities for mills in this district are good, there being wood and water in abundance, the principal mines being easy of access, cañons large, so that wagons can be run up and down without moving a rock or grading. A mill, I am informed, will soon be taken down at Austin, and put up at Rattlesnake Springs, about six miles south of the Hot Creek mill, for doing custom work, and when spring opens, I apprehend that the Hot Creek country will show some of the richest silver mines and busiest mining camps in the State."

Esmeralda--

T. W. Abraham writes to the Nye County *News* as follows: "I have just returned from a trip of three weeks to the new gold mines between East and West Walker rivers, in Esmeralda county. I shall go back in a few days and stop through the winter. The mines of which I speak are wonderfully encouraging, being gold-bearing quartz lodes of good width and well-defined. Enough has already been discovered to give great hopes of permanency and future success."

Humboldt--

From the *Register* of Nov. 10th: Oreana is lively. The furnaces were not in blast when we were there—were undergoing repairs; but were fired up Monday, and are turning out plenty of bullion. The new building, for the large and improved furnaces, is going up as rapidly as the carpenters can do the work. Coarse bullion stands in high stacks all about the mill, and finer bullion in large quantities in adjacent boxes. The refining has not yet kept pace with the smelting, and no shipments till next week.

Pahrump--

A number of miners will winter in this district. One mill has been completed, and two others are to be put up immediately. The prospects are reported to be good for business in the spring.

IDAHO.

From the Idaho City *World* of Nov. 3d: Judge Hough brings us mining news from the northern part of the State. Warren's diggings is one of the liveliest mining camps on the coast. There are about 500 men at work about there, and the claims generally pay very handsomely. New and rich discoveries are being frequently made in that locality.

The quartz interest is promising very favorably in Northern Idaho. Several ledges discovered about Warren's diggings, and in the Elk Creek country, prospect richly. A quartz mill will be put up in the spring.

From same of 10th: In Alturas, the Wad-

diagham mill is running. The Benson mill will run a short time. The other mills will likely remain idle during the winter. Two or three arrastras have made some money this fall—among them one working Ada Elmore rock. Rucky Bar is still the principal mining camp of that country. Red Warrior is about deserted.

The Enterprise Tunnel Company have contracted with a party of miners to run 300 feet of their tunnel at \$4 per foot. The work is to be commenced immediately from the Moro's Creek side of East Hill, and when completed will be about 150 feet below the level of East Hill Tunnel, which is now 350 feet in length.

MONTANA.

From the *Post* of Nov. 3d: The best statements regarding Rochester gulch are repeated in our presence every day. In the basin, which is nearly three miles square, the ground from the surface to a depth of four feet yields from three to five cents to the pan. There has been no snow there during the present season. The distance from Virginia City to the mines is about forty-two miles.

On the Kennett lode, near Slade creek, five miles from Virginia City, a shaft has been sunk to the depth of the original lode, and another of twenty-five feet upon the extension. The rock resembles that of the celebrated Ore Cacho in its appearance, and every fragment contains free gold in the form of thin scales. . . . Some prospectors belonging to Helena, discovered in the Mengher county, a rich copper lead, which they named the "Green Clay Smith Lode." There are traces of gold and silver in the rock.

COLORADO.

From the *Journal* of October 30th: Mr. Fletcher came down from Montgomery the other day. We hear it said that Captain Plummer has made a small shipment from his new mill—thirty-six ounces. The Buckskin people are emigrating to a large extent for the winter. Mr. Napheys tells us that the snow fell there on the 15th and 16th to a measured depth of fifty-eight inches. . . . The Bobtail mine is at last drained, and among others the Barstow company will soon resume work. They will doubtless sell their first-class ore, as will also the Seneader company, to Lyon & Co., for seventy-five dollars per ton. As selected, the Bobtail ore contains from fifteen to twenty per cent. of copper.

Mr. Fish is cleaning out the old 70-foot shaft, and preparing to mine the Davenport, in Gregory Gulch, above Mountain City. . . . The mining camp of Tarryall has shipped, by express, from twelve to fifteen pounds of gold per week since last spring. One bank claim, working three men, has yielded regularly over a pound of gold per week.

Mr. C. S. Stowell has run out about 60 cwt. of metal from his Argentine mines, its value estimated at \$200 per ton. It is to be shipped East in its present shape, and run through the lead oxidizer in Portland, Me., parties running the machine there wishing to try their hands at cupelling with their patent oxidizer. In the trial made by Mr. Stowell, silver at the rate of sixty-eight ounces per ton of litharge was found in the litharge.

Mr. Solomon Robeson, for two summers prospecting in the Medicine Bow mountains, returned a few days since, and from him we gather that there is a mining district of considerable extent, about two hundred miles northwest from Denver, and fifty southeast of Fort Halleck. The best gulch found varies in width from three hundred to six hundred yards, is generally about ten feet to the bedrock, has enough fall to ground sluice, and runs an abundance of water. The surface prospects just about enough to pay for running off. Deeper and on the bedrock it prospects ten cents to the pan. The party examined the gulch pretty thoroughly for fifteen miles in length, and found it very even.

Editorial correspondence from Montgomery has these items: The El Dorado has a shaft more than 100 feet in depth. The Ogden also has a deep shaft with an engine house upon it—engine and hoisting house in good repair and looked up. The Harrington and Washington look precisely as they did a year ago. Some Eastern companies have been organized upon them, but have as yet seen no cause for doing anything. At the Parsonage, the upper adit, starting 300 feet in altitude from the top of the hill, has been driven 160 feet. Thirty or forty cords of quartz and ore lie at the mouth.

On the Susquehanna, 700 feet east from the German lode discovery, Mr. Morgan has sunk the old shaft thirty feet deeper. Some very good ore was taken out. At Mr. Klein's shaft, just above the Susquehanna mine, very fine looking ore is seen. Three wagon-loads of the ore, run in Holbrook's stamp mill, gave 11 ozs., 16 dwts.,—at the rate of about fourteen ounces to the cord. Ryan & Co. are buying the best quality of Klein's ore. The gold averages \$17.93 to the ounce.

The Consolidated Gregory mine lies idle. Lyon & Co. having expended \$130,000 upon it,

and got it into good condition, are waiting for the other stockholders to pay their portion of the expense incurred.

In the Gregory No. 2, the Black Hawk company have, within a week, struck the finest vein of ore they have had for three or four years—four to five feet in width and pure and rich. At Keith's we are told that the Smith & Parmelee company have paid the mill \$20,000 within about six or eight weeks. DuBois is getting well under way, and Col. Tannatt is gradually warming up his furnace preparatory to starting. Mr. Fitzpatrick is doing better than before for a year, and his monthly average, for about fourteen months, has been as high as 500 ounces. The Smith & Parmelee and the Ophir are getting the finest and the richest ores they ever had. The Congdon have the largest pile of ore in the Territory, a mine second to none in character, are clear of debt and with money in the treasury, stockholders jubilant, and stock selling for three times as high a figure as that at which it was originally placed in the market in the feverish stock excitement of 1864.

From the Denver *News* of October 31st: The reports from Ward mining district are very flattering, and promise great things for the future. The Ni-Wot mining company are now taking out twelve hundred dollars in gold every day. The Columbian lode, upon which the Ni-Wot mill is situated, has been discovered lately to have a crinoid of solid ore sixty-two feet in width. The ore yields two hundred and eighty dollars to the cord, is soft quartz containing free gold, easily saved by the ordinary process.

ARIZONA.

From the Los Angeles *News*: The mining interests of the Territory are looking up. At Williams' Fork the Great Central company have completed their extensive smelting furnace, and ten tons of copper had been smelted. All the mines at Williams' Fork are doing well; the ore now being obtained from the different companies will hereafter be smelted on the ground. The only company now shipping ore is the Placet, and that company will smelt their ore as soon as they have finished shipping what they have already on the banks of the river.

Mr. Ravena, on a recent trip from Prescott to La Paz, brought down a gold bar weighing two hundred ounces; the result of a run of Captain Bogart's mill, at Prescott.

Mr. Ravena is still prosecuting the work of developing his gold mine, having run a drift twenty-two hundred feet; the lode is now laid bare for a distance of nine hundred feet, and varies from nine to twenty-one feet in width. This mine is pronounced very rich, an abundance of wood and water is close at hand, and it is situated only six miles from La Paz.

OREGON.

The Idaho *World* of Nov. 10th, says: New diggings are reported on the banks of the Umatilla river, a mile or two back of Umatilla Landing.

UTAH.

From the *Vedette* of Nov. 8th: We were yesterday shown a certificate of an assay made by Messrs. Bohm & Molitor, of ore from the "Ballion" lode, No. 3, in Bingham Cañon, which takes the lead of all yet found. Messrs. Bottsford, Skidmore & Co. are the proprietors of this rich discovery. The following is the assay: Gold, oz. 216.27, value, \$1470.67; Silver, oz. 160.35, value, \$207.35; total value, \$1678.02. Who now can doubt the existence of great wealth in this Territory.

BRITISH COLUMBIA.

From the British *Colonist* of November 8th: Passengers from Big Bend report that the Fort Yale company, on McCullough Creek, have struck pay at a depth of seventy feet. Also, that a company adjoining the Fort Yale have got dirt that prospects two dollars to every three paces.

Reports came into Fisherville that on the other side of the Rocky Mountains, four days' travel from Kootenay, new gold diggings had been discovered by Kootenay miners who were on their way to Saskatchewan, and that companies there were making sixty ounces per day.

Rains had caused a cessation of mining operations in several of the more populous and favorite localities, and claims were being laid over for the season. Reports of new discoveries, some of unusual value, continued to be received, but their truth cannot be verified until next spring.

The Cariboo *Sentinel*, of October 29th, publishes the following statement of the amount of gold produced in the district of Cariboo, for the season ending on that date: Exported by the Bank of British Columbia from the 7th of May to the 29th of October, \$518,710.52; Bank of British North America, \$452,220.58; amount exported by merchants, packers, miners, etc., \$100,000—total, \$1,070,931.10. This is exclusive of the amounts lodged in the banks on special deposit, and is said to be a low estimate.

Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers

AUSTIN, NEVADA.

Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. HAYNARD.

J. H. TIEMANN.

MAYNARD & TIEMANN,

Mining Engineers and Metallurgists,
240 Pearl street, New York.

—AND—
CENTRAL CITY, COLORADO.
19v12-1y

To Copper Miners and Others Interested in the Working of Copper Ores.

THE UNDERSIGNED HAVING BEEN APPOINTED Agent and Attorney by S. Baskett, for the sale of his COPPER SMELTING FURNACE, which has proved a perfect success, is prepared to furnish the same to parties having Copper Ore, or will make arrangements to buy their Ore, receivable at their mines. For further particulars, apply to JOHN N. KISDORF, 21v12 At Coffey & Kisdorff's, San Francisco.

MARTIN & CO.,

Office, Stevenson House,
Corner California and Montgomery streets (up stairs).

WILL CONTRACT FOR THE
PURCHASE OF COPPER ORES.
Assaying eight per cent. and upwards of Copper to the ton. We will make advances upon Ores of Copper. San Francisco, Post Office Box 1259. 22

EUROPEAN

METALLURGICAL WORKS,

—AND—
Practical Mining School,
Bryant Street, Between Third and Fourth,
SAN FRANCISCO.

THE Proprietors are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of ore adapted to the smelting process attended to. Sulphuric, pyrites, and the so-called "rebellious ores," are having special attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

S. P. KIMBALL,

J. E. MURPHY.

10v10

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IMPORTERS,
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WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

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And from France and Germany, as well as the Eastern States, PURCHASERS, CHEMISTS, MECHANICAL BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such appliances as are necessary in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' Sundries, Acids and Chemicals, constantly on hand. San Francisco March 6, 1865 11v10-1f

Quartz Mill Construction and Superintendence.

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, efficient and reliable quartz operator. Address F. M. SHAW, San Francisco, care Mining and Scientific Press. 14v15-1m

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Gives exclusive attention to

Diseases of the Eye.

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Dr. Powers refers, by permission, to Rev. A. L. Stone, D.D., Ira F. Rankin, Esq., L. E. Bencley, Esq. 17v13-6m

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A GOOD PAYING BUSINESS, TOGETHER WITH THE good will of the party, controlling the entire trade of this city and State. It is suitable to any intelligent business man, and has averaged about \$800 per month. It is now offered low, solely because the proprietor is compelled to leave the city. Address "S. H.," Lock Box 602 Post Office, or inquire at S. W. HOWLAND'S, No. 24 California street. San Francisco. 17v15-1m

Just Published.

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS OF THE Nervous System and Reproductive Organs, to be had by addressing and inclosing twenty-five cents, postage stamps, to Secretary PACIFIC MUSEUM OF ANATOMY, Montgomery street, San Francisco. 12v13-1y

ELECTROTYPING CUTS, ENGRAVINGS, Etc.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State.

Mining and Scientific Press.

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O. W. M. SMITH,..... W. B. EWER,..... A. T. DEVEY,
DEWEY & CO., Publishers.

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Canyassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
SAN FRANCISCO, Jan 11th, 1866.

San Francisco:

Saturday Morning, Nov. 24, 1866.

NOTICES TO CORRESPONDENTS.

STAR GAZER.—The somewhat sneering observations made by many contemporaries at the non-occurrence of the anticipated meteoric shower of the 12th, 13th and 14th instants, can only be accepted as indications of their lack of science and wit. The soundness of the prediction that a great meteoric shower might be expected tri-centennially, at nearly equal spaces of time between each appearance, cannot be invalidated, because we in the United States failed to observe such during the current month. When the spaces traversed by the earth and the meteors, during a third of a century, are taken into consideration and contrasted with the, in comparison, almost infinitely small area occupied by the North American Continent, it cannot be a matter of surprise that the periodic shower of meteors should, on the present occasion, happen to be more visible in some other point of the earth, than the North American Continent. Phenomena of the character under notice are almost annually observed in Mexico, Central and the northern part of South America, at this period of the year, whilst they are only faintly, and often not at all visible, at other parts of the earth. As an illustrative instance, may be mentioned a very splendid meteoric shower, seen in England in the year 1837, while a most attentive and skillful observer at Braunsberg, in Prussia, saw on the same night, which was there perfectly clear, only a few sporadic shooting stars fall between seven o'clock in the evening and sunrise the next morning. From this fact, Bessel concluded that a dense group of aerolites, composing a great ring, may have reached that part of the earth in which England is situated, while the more eastern districts of the earth might be passing at the time through a part of the meteoric ring proportionally less densely studded with these bodies. A telegram from Greenwich announces that the meteoric shower was visible at that observatory, much more numerous and brilliant than is generally seen in ordinary years. It ought not to be forgotten, also, that a distinguished astronomer calculated that the unusually brilliant periodic shower which ordinarily takes place about the expiration of every third of a century, will not become due until November, 1867. In a few months we shall probably be in possession of information respecting the meteoric appearances presented by the heavens over the greater part of the earth, during the nights of the 12th, 13th and 14th, of this month. When all these data are collected, we shall perhaps be able to judge more understandingly.

S. M.—ARTIFICIAL MAGNETS OR LOAD-STONES, may be prepared in several ways, the easiest manner and the most powerful, are made by a method first proposed by Mr. John Mercer, a talented chemist residing at Manchester, England, the recipe of which is as follows: "Take a quantity, say one pound of the common crystallized protosulphate of iron, dissolve it in water, and add nitric acid in sufficient quantity to peroxidize it, and afterwards expel carefully all excess of nitric or nitrous acid by boiling. To this add one pound of protosulphate of iron, with water sufficient for its solution. Pour the mixture into a solution of caustic potash sufficient in quantity and strength to decompose the whole, and then boil. The precipitate thus thrown down consists of a mechanical mixture of the protoxyd and peroxyd of iron atom to atom; raise the temperature of the mixture to 212° Fahrenheit, and their chemical union is effected. That such is the succession of changes, is proved by dipping into the mixture previous to boiling it, a piece of cotton cloth, which, after exposure to the air for four minutes and washing in water, exhibits the buff stain peculiar to peroxyd of iron precipitated upon cotton fiber. But if this is performed after the boiling, a dirty black stain is obtained, indicating the formation of the black oxyd."

This fact is further proved by the oxyd, after boiling, having a crystalline structure, when examined under the microscope; the minute plates having a brown color and being transparent, although the edges of the crystals are not sufficiently defined to trace the form. The application of the artificial magnetic oxyd of iron, either in a dry or moist state suspended in water, has been recommended as a substance well adapted, from the extreme susceptibility of magnetic influence, to indicate the direction of magnetic or galvanic currents, the magnetic curve described by Dr. Brewster being beautifully exemplified by the use of this oxyd.

THE ANGULAR PADDLE WHEEL.

Considerable interest has been manifested in this city, for the past year or more, among steamboat men, with regard to what is known as the Jones & McComb Angular Paddle Wheel. The design of this invention is to do away with loss of effective power, necessarily involved in the working of the common paddle wheel—an object which has been long but ineffectually sought for, by mechanical contrivances, for "feathering" the floats of the common wheels as they revolve. The float devised by the gentlemen named, is set across the face of the wheel, at an angle with the line of the shaft, and is so twisted or warped, that every inch thereof, from one end to the other, is perpendicular to the center of the shaft, a condition which cannot be obtained from the straight angular floats which have heretofore been tried. By this arrangement there is neither blow or impact as the wheel strikes the water, nor pressing down as it goes in, nor lifting up as it comes out; but the floats have a uniform and constant heering against a solid body of water, precisely like an oar in sculling.

The theoretical result is a greater economy in the application of power, less slip, a total absence of the vibrating action due to the "heating" or impact of the ordinary wheel (so unpleasant to passengers and injurious to boat and machinery), and the capacity of an almost unlimited speed at which the wheel may be run.

The mechanical effects of impact are well understood, as is also the great loss of power thus involved in the motion of the ordinary steamboat wheel. By the impact of a hammer, actuated by the hand, we may drive a nail which a ton weight of power will not start. The philosophy involved is a multiplication of the velocity of the falling body into its weight, which is taken up by the object struck. In the case of the paddle-wheel, that force is taken up by the water and lost, so far as propulsion is concerned. The amount of that force may be imagined by the effect it exerts upon the boat, and just that amount, together with the subsequent pressing and lifting, must be saved by the angular or feathering paddle. Competent engineers have calculated that the saving of power, as above, will allow of an increase in the periphery of the angular over the ordinary wheel, of fully twenty-five per cent., without any increase of power being required to give the wheel the same number of revolutions. When to this is added the capacity which these wheels possess for almost unlimited increase of revolution, with their acknowledged decrease of slip, it may well be inferred that the speed of a boat driven thereby need be limited only by the strength of its construction.

The ordinary wheel can be run at a speed under which propulsion will almost cease, as the force of the wheel will be chiefly exerted against a falling column of water, while this wheel may be run at any attainable speed, greater even than that admissible in the submerged propeller; as whatever the speed, the floats must be constantly pressing outwards or inwards, according as they are set, against a volume of undisturbed water.

So much for theory. The first practical trials of this wheel were made in a Whitehall boat, driven by hand. Careful estimates are claimed to have been made, which showed that in these hard trials the "slip" of the angular wheel was only three per cent.; while the slip of a model wheel of the same size, constructed after the ordinary manner, was twenty-five per cent. It should be borne in mind that in these trials the angular wheel was constructed exactly after the manner which experiment had shown was required for an accurate development of the principle, while in the subsequent trials on board the S. M. Whipple, this proper construction was so far departed from as to allow the slip of the angular wheel to fall back to nearly the same as that noticed in the ordinary wheel.

The principle of the angular wheel requires fourteen floats for such wheels as those upon the S. M. Whipple; but the frame work of her wheels was such as required the use of either

ten or twelve floats. Four trials were made with that boat—the first with her usual wheels; the second with ten angular floats; the third with twenty, throwing this water outwards, and the fourth with twenty floats, throwing it inwards. These trips were made to Red Island and back, and in each case, so far as possible, under equal conditions of tide, wind, and pressure of steam. The result was a slight gain for the new wheels of about fifteen minutes in the total time of running—a little short of two hours—with about the same amount of slip. No appreciable difference of speed was noticed between the third and fourth trials; but when the floats were set so as to throw the water inward, the boat did not mind her rudder so well as when they were set the other way, and more power was required at the wheel than with ordinary wheels. On the first trip, when throwing the water outward, she moved forward in a straight line for upwards of thirty minutes without the wheel being either moved or held in place, except by the headway of the boat. All the trials were made under about sixty-seven pounds of steam pressure.

The last results are considered as highly encouraging, considering the unfavorable conditions under which they were made; and it may reasonably be expected that when a trial is made, with a wheel constructed in perfect accordance with the principle involved, results will be obtained closely approximating the theoretic deductions derivable therefrom. The practical deductions from the results already obtained, after making reasonable allowances for unfavorable conditions, would seem to indicate an effective saving in the angular wheel of from one-sixth to one-fourth of the power required to perform the same amount of propulsion with the old wheel. We hope soon to be enabled to give a mathematical demonstration, showing the precise theoretic difference, in obtainable results, between the application of power to the angular and common wheel. We also understand that a properly constructed angular wheel is to be put upon the Alameda boat, at an early day, such as will give an effectual and practical solution to this interesting problem.

THE ÆTNA IRON WORKS.—Messrs. Hanscom & Co., proprietors of the above named works, have their hands full of business. Among other matters at present in hand, are the furnishing the iron works for the front of the Fireman's Fund Insurance building, on the corner of California and Sansome streets; a "monitor," or miner's hydraulic distributing chest, for W. V. Clark of Mokelumns Hill; a sawmill for Thos. S. Farmer of Santa Cruz; machinery for a cotton mill, for Mr. Curry, to go to Mexico; machinery for Martin Myrick's coffee and spice mill, San Francisco. By the last Oregon steamer they forwarded an 18-inch Tyler water wheel to order. They have castings to make also for petroleum stoves, the demand for which seems to be increasing. A large amount of miscellaneous work in their line is being constantly turned out at these works.

Mr. Smith, of this firm, has the agency for Dunbar's Piston Packing Rings, which are being extensively introduced on this coast. A set of these rings recently manufactured by Messrs. Hanscom & Co., for the McKee Plantation, Sandwich Islands, was spoken of in the highest terms in a recent letter to the firm, and the mechanical execution of the work was especially praised.

These gentlemen opened the Ætina works during the last spring. Through judicious advertising and faithful attention to business, they have secured a good share of patronage throughout the entire season. We congratulate them upon their success.

A deposit of peroxyd of manganese, which it is thought will prove valuable, was struck on the 21st inst., near the Mission Dolores, by workmen who were blasting rock.

THE LARGEST TUNNEL in the world is known as the Box Tunnel, on the Great Western Railway, in England. This tunnel is 9,680 feet long, 30 feet high, and 35 feet wide.

J. ROSS BROWNE'S REPORT.

The report of J. Ross Browne, Government Commissioner for collecting mining statistics on this coast, was forwarded to Washington by the last steamer. Although intended merely as a preliminary report, it fills about 500 manuscript pages, containing a large mass of valuable statistics. It would have been, of course, impossible for any one man to have collected in person all these items, in the course of the two months which have elapsed since the appointment. Mr. B. secured the services of experts, and by a judicious division of labor, managed to have the thing done expeditiously and effectually.

The report is in ten sections. The first relates to the history of gold and silver mining on this coast, from its inception to the present time. The second to the geology of the gold and silver belts, together with the processes for the reduction of ores; prepared chiefly by gentlemen connected with the State Geological Survey, especially for Mr. Browne. The third section describes the present condition of the mining interest, with statistics of representative mines. The fourth relates especially to the State of Nevada. The fifth is devoted to copper, and is especially complete; giving, as it does, what may be denominated an exhaustive paper on that subject, as regards this coast. Quicksilver furnishes the matter of the sixth section. The seventh refers to the borax, sulphur, tin and coal resources of California. The eighth section sketches the legislation of different governments in reference to mineral lands, and the late action of the United States Government on the same subject. The ninth shows the manner in which the local mining laws vary from each other in different districts, and urges the propriety of a uniform system in all. The tenth and last section, gives a list of the most important works that have been published in reference to the mining interests on this coast.

This report undoubtedly presents the substance of the facts that have been, up to this time, collected on the subject to which it relates, in the most complete, and at the same time succinct form possible. The effect will no doubt be seen in the more intelligent legislation on these matters, which is likely to be the result. But as the subject cannot be exhausted while the mining interest exists as the chief one on this coast, the commission should be a permanent one; and without doubt our National Legislature will see this necessity of a further appropriation, in order that it should be made such, inasmuch as it is only by that means that the mining interest can be properly represented and advocated at the National Capital.

THE recent rich strike in the Woodeide quartz ledge, near Georgetown, at the depth of 125 feet, has waked up the people in that vicinity to the fact that the reason their mines have been under a cloud, is simply that they have not been sunk upon to a sufficient depth. They assert there is not a shaft in El Dorado county which is 200 feet deep; and that of six quartz mines in that region which were owned by San Francisco parties, the average depth is only fifty feet. Yet these six mines were all abandoned as worthless, although mills had been put upon three of them, and two furnished rock which yielded \$15 and \$25 per ton! Several claim owners have set themselves to work in earnest, to sink at least 300 feet.

It is doubtful, after all, whether a section of the Big Tree will be sent to the Paris Exposition. It is ascertained by calculation that a section one foot in length, would weigh eighteen tons; and that one three inches in length, would weigh three and a half tons! The cost of laying it down in this city would be about one thousand dollars.

WORLD'S FAIR COMMITTEE.—Dr. J. B. D. Pigne Dupuytren, Professor Wm. P. Blake and Alvina Maynard have been appointed by the Chamber of Commerce a Special Committee to represent them at the World's Fair at Paris next year.

THE BUENA VISTA OIL COMPANY.

The property of this company, which consists of a claim of ten quarter sections, is located near Buena Vista Lake in Tulare county, and was the first location for petroleum made in that region. The company was organized about two years ago; but little was done, however, until last summer, during which a refinery was put up on the company's ground, with a capacity for refining about 250 gallons per day. The works are now in operation under the immediate charge of Mr. Sleeper, late of Columbia.

Mr. J. O. Lovejoy, President of the company, called upon us on Thursday last, and left upon our table a package each of the illuminating and lubricating oils produced at these works, which appears to be of as good a quality as any imported. This oil has been quite extensively used in Mariposa county for some time past, and, as we learn from the Mariposa Gazette, gives most perfect satisfaction. Five hundred gallons of burning fluid and lubricating oil was received in Mariposa, a few days since, for local consumption there; and it is expected that the company will be able to produce from this time on, from 5,000 to 7,000 gallons each month. The dealers in that portion of the State will be supplied directly from the works, and the surplus will be sent to this city.

A shipment of forty-eight casks was received here on Tuesday last, per schooner Joseph Wadley, via San Luis Obispo, to which port it is transported on wagons, a distance of seventy miles from the works. Reddington & Co., of this city, will act as agents for the sale of the oil.

The company's supply of crude oil is derived, for the present, from a single pit about twenty-seven feet deep, and 6x8 in size, cribbed up. About 300 gallons of crude oil can be pumped from this pit every morning; the supply being replaced by percolation from the surrounding gravel during the balance of the day and night. The crude oil yields, by practical working, as follows:

	per cent.
Burning Fluid	45
Lubricating Oil	45
Residue, (mostly Carbon)	20
Total	100

The density of the oil as it comes from the pit, is from 20° to 25°. The residue from the still is used for fuel, for conducting the process of distillation, and for other purposes; but a small portion of the amount, however, is required. Mr. Lovejoy informs us that there is a belt of ground, from two to three miles in width, extending for a distance of thirty or forty miles, parallel with the coast range, throughout the whole extent of which, at intervals, oil indications may be found. The most promising portions of this strip of country has been located as petroleum grounds. The large cost of transportation at the present prices of oil, will but little more than cover the expenses of manufacturing and delivering the same in this city. The profit of the company now at work is mainly derived from the local sales in that portion of the State. There can be little doubt, however, that should the contemplated railroad to the southern portion of the State be constructed, a most lucrative business in this line would speedily grow up. The successful experiment of the Buena Vista company, and the companies operating in Santa Barbara county, have given a practical demonstration that that portion of California is capable, not only of producing oil enough for home consumption; but can also, by going deeper, and otherwise extending the field of operations, furnish an almost unlimited supply for shipment to foreign markets.

Mr. A. HAYWARD, who has been appointed one of the California Commissioners to the Paris Exposition, has prepared a block of quartz from his own well-known mine in Amador, which he will take with him. It is from a depth of 1,250 feet, and weighs seventy-seven pounds.

A USEFUL ARTICLE.—Dr. Boynton's Medicine Chest. See advertisement in to-day's paper.

HENDY'S NEW CONCENTRATOR.



[Will soon be illustrated.]

Hendy's Latest Improved Concentrator, for Gold and Silver Ores, With Revolving Stirrers and Rotary Distributor.

(As described in the MINING AND SCIENTIFIC PRESS, November 17th, 1866), can be seen at H. J. Booth & Co's, Union Foundry, First street, corner of Mission. For further particulars, send for a Circular. Address

J. HENDY,

403 Montgomery Street, San Francisco.

N. B.—The proprietor is prepared to furnish these Machines on thirty days trial, to responsible parties.

SILURIAN FORMATIONS IN NEVADA.—At the recent meeting of the Academy of Natural Sciences of California, Prof. Whitney stated that a collection of silurian fossils had recently been sent in by Dr. Blatchley, of Nevada, and that they were sufficient to show that the lower silurian formations were developed in Nevada about one hundred miles southeast of Austin. Fossils, specifically identical with those found in the Niagara, Chazy and Trenton groups in New York, are abundant. They appear to be similarly grouped, and are remarkably like the New York fossils. Corals and trilobites are numerous and are very well preserved. These fossils show that there was deep water in that region in the silurian period, and that the rocks are contemporaneous with those which form the larger part of the State of New York. This, the Professor said, completed the whole series of geological formations on this coast.

Prof. Blake remarked that Dr. Newberry, in his exploration of the Colorado River, had seen and reported what he considered to be lower silurian rocks resting upon the granite at the base of the cañon of the Colorado, and that the cañon gave a complete section of the geological formation from the base of the silurian to the tertiary inclusive. Other observations made in that region, had led Prof. Blake to the opinion that we not only had rocks there of silurian age, but a region of rocks still more ancient or pre-silurian, which probably had formed a shore or island, around which the silurian rocks were deposited, as in the State of New York.

NITRO-GLYCERINE.—An advertisement appears in our columns to-day from Messrs. Bandmann, Neilson & Co., the agents for the sale of Nobel's Patent Blasting Oil, or Nitro-Glycerine. Next week we shall publish a letter from that firm, giving a brief history of their connection with this article, and its present position before the public.

A MILL for the manufacture of all kinds of knit goods, has just been completed at the corner of Folsom and Eagle streets, in this city. The machinery is of the best construction, and is already on the ground. An engine of 100-horse power will be the motor.

With the first steamer of the China line, which will sail on the first of January next, will go the first number of Marriott's new journal, entitled the "Californian China Mail and Flying Dragon." It is to be printed in Chinese and English.

Air Pump for Sale.—One of Tate's Double-Action Air Pumps, in prime order, can be had at a bargain, by applying soon at this office, or to JOHN ROACH, mathematical instrument maker, 622 Montgomery street. 21v13-3p

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10

TOWNE & BACON, Print—

Stock Certificates,
Assessment Receipt Books,
Transfer Journals,
Circulars,
Hand Bills,
Cards,
Billheads,

And every kind of Job Work that may be desired.

A NEW ARTICLE OF TAGS FOR GROCERS' USE.

16v12 536 Clay street, opposite Leldesdorff.

OIL! OIL!! OIL!!!

—OUR—

MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

Dell, Cranna & Co.,

511 1-2 and 513 Front street, San Francisco

IMPORTERS OF

COAL OILS AND LAMP STOCK.

21v12-3m3p

Hunt's California Pump

HAS all the advantages of any other Pump. Is one third cheaper and more durable, will draft water as deep and force as high as any others, is not liable to get out of order, and is easily repaired by any one.

All these Pumps are fitted to work by hand if desired. These Pumps have given good satisfaction to all who have used them during the last three years. Good judges have examined and pronounced them to be the cheapest and best Pumps in use.

Manufactured at Hunt's Windmill Factory, 23 Second Street and 110 Jessie Street.

Also, Tread Horse Powers, Pumping Frames for Irrigating, Saw Frames, Sweep Horse Powers and Frames, all in one frame, the horse to travel around the frame.

PRICES OF HUNT'S CALIFORNIA PUMPS.

No. 3—3-inch cylinder, 6-inch stroke.....	\$30 00
No. 4—3½-inch cylinder, 6-inch stroke.....	35 00
No. 5—4-inch cylinder, 6-inch stroke.....	45 00
No. 6—5-inch cylinder, 8-inch stroke.....	60 00
No. 8—8-inch cylinder, 12-inch stroke.....	90 00

For further particulars, send for Circular.

E. O. HUNT,

21v13f 23 Second and 110 Jessie streets, San Francisco.

DR. A. HARTMAN,

Electro-Magnetic Physician,

CURES ALL CURABLE DISEASES, BY THE CONCENTRATION OF THE VITAL FORCES. Nature's own method of cure. The blind made to see, the deaf to hear, the lame made to walk, and the sick healed. Come and see the afflicted at the rooms. They will speak for themselves. The poor treated free from 10 to 11 A.M. and 4 to 5 P.M. Operating rooms, Cream House, 523 Kearny street, between Sacramento and California. 21v13m

THE MINING AND SCIENTIFIC PRESS, published weekly, in San Francisco, California, by Dewey & Co., is one of the oldest and most valuable papers published in the "Golden City." Mining is its specialty, but it is full of a variety of scientific and valuable information. Subscription price is only \$5 a year. —[Philadelphia Mining News.]

To Miners and Families Living in the Country.

DR. BOYNTON'S MEDICINE CHEST, is put up in San Francisco expressly for the use of families, and consists of a chest of moderate dimensions, neat in its appearance, containing those household articles, simple remedies, that families always feel like keeping on hand for immediate and common use, and a book of brief instructions, describing their use.

The object in preparing this Chest was not to make doctors, but for the simple purpose of nursing; hence, a majority of the remedies are such as are familiar to nearly all who are advanced in life, and the book is simply a representation of those plain truths relating to the department of the nurse already set forth in more extensive works. It was the object, not to say many things, but to say few things—to simplify and make plain for common use. And in selecting the contents of the Chest, the object was not to set forth something new and wonderful, but those of old and well-known worth.

In view of the above facts, physicians have everywhere encouraged the circulation of this chest in unqualified terms. They recognize the fact that families do not, will not, need call on them on the occasion of every slight derangement or infirmity. They do not and cannot deny the fact that such obligations of home care rest upon heads of families.

The book gives a description of nearly every medicine in the collection, their use, and their component parts, so that every person may know what he is receiving into his stomach or applying to his person. This openness and frankness is regarded by the best practitioners, and all considerate persons as just, more than policy. The universal conviction of the more thoughtful is, that that which relates to our health and physical well-being in this life should, above all things, be known, and not kept in the darkness of secrecy.

In introducing this chest in the country, we always first submit it to the criticism of practicing physicians, and feeling the importance and acing the necessity in this sparsely settled country of home-nursing, and seeing the adaptability of this chest, physicians in San Francisco, Sacramento, Stockton, Knight's Landing, Cacheville, Marysville, Colusa, Oroville, Lincoln, Polson, and Auburn, have given it their hearty sanction. Seeing the necessity on this coast of people relying upon themselves in such matters, physicians in this State have remarked: "If I could choose but one for a family, I would every time choose the nurse instead of the physician." "If families would get a collection of simple remedies, with plain instructions for their use, they would do away with half the doctoring." "All families should possess themselves of a collection of common remedies, with plain instructions for their use." "I would like to see the chest in every family."—"It is a convenience."—"It is useful."—"much sickness and much expense might be saved by such home care."

We subjoin the following statistics from Sutter County, California:

"The undersigned have had Dr. Boynton's Medicine Chest in their families for the last few months, and willingly state that they regard it as a wise provision, strictly practical and highly useful."

Every person having the chest in the above named county has signed the above article. The publishing of the names being unnecessary, we withhold them and save space.

The undersigned have known Dr. Boynton's Medicine Chest for the last few months, and regard it as a wise provision, and highly useful in every family. The medicines being put up with instructions, its utility, convenience, and great economy are unquestionable.

Signed by Judge HUNNERT and 45 others.

STATE OF CALIFORNIA,) ss.

County of Sutter,)

I, C. E. WILCOXEN, County Clerk in and for said County, hereby certify that I am personally acquainted with a majority of the individuals whose names are subscribed to the foregoing certificates, and that they are good and substantial citizens of said county.

Witness my hand and official seal this 27th day of

December, A. D. 1865.

C. E. WILCOXEN, County Clerk.

Agents wanted in every County to sell this Family Chest.

Their compensation will be a liberal commission on all sales.

The Agent should be a resident of the district which he is to canvass, and accompany his application with good references, and of this city if possible.

We can give further particulars when desired.

All letters should be addressed through the post office, to

E. NORRIS,

12v13c6849 San Francisco.

NITRO GLYCERINE.

Nobel's Patent Blasting Oil!

WE ARE NOW PREPARED TO SELL NOBEL'S PATENT Nitro-Glycerine. The same is stored with Mr. C. S. SWENSON, at Michigan Bluff, Placer county, from where the oil has to be received by purchasers.

Application to be made to Mr. C. S. Swenson, or to the undersigned.

IGNITERS AND CARTRIDGES!

For sale at the same place.

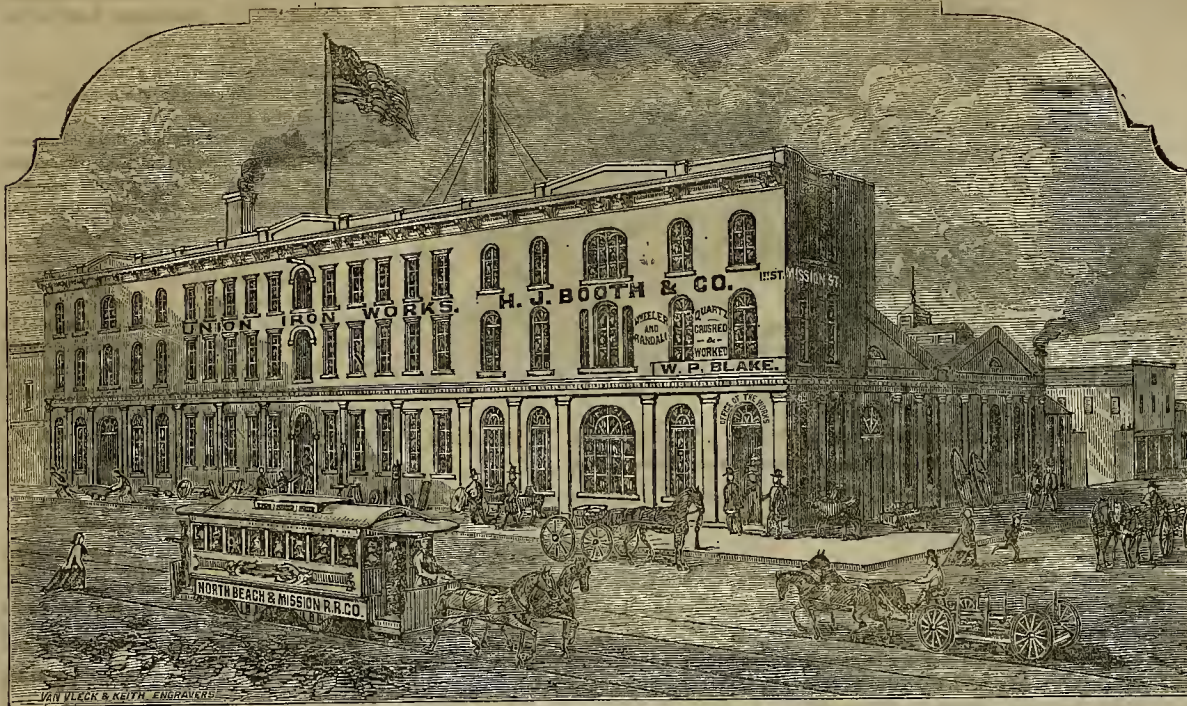
Mr. Swenson is willing, if desired, to show purchasers the mode of blasting, either at his own mine, Michigan Bluff, or at the places of purchasers.

Pamphlets, with minute instructions, will be presented to every purchaser or applicant.

BANDMANN, NIELSON & Co.,

21v13 210 Front street, San Francisco.

The Mining Press has entered upon its thirteenth volume. It is a valuable publication in its sphere, and its sphere is a large and important one. —[Marysville Appeal.]



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, Screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS.—Locomotive, Flat, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Frater's concentrators, Wakley's pans, Boers' pan, Germain Barrels, Arastar Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Stralight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

OIL ROBIN TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Eike at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT.

H. J. BOOTH & CO.

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,Requires no springs or screws; is always steam tight;
without excessive friction, and never
gets slack or leaky.WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'SAMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,Giving the greatest power, at lower cost than any
wheel in use. There are over 1,500 running,
giving universal satisfaction.**KNOX'S AMALGAMATORS,**
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and DiesHaving been engaged for the past eight years in quartz
mining, and being conversant with all the improvements,
either in Mining or Milling, we are prepared to furnish, at
the shortest notice, the most perfect machinery for reduc-
ing ores, or saving either gold or silver. 18v10qy-11**WILLAMETTE IRON WORKS,**
PORTLAND, OREGON.Steam Engines, Boilers,
SAW AND CRIST MILLS,
MINING MACHINERY, WROUGHT IRON SHUTTER
WORK, AND BLACKSMITHING IN GENERAL.Corner North-Front and E streets,
18v13-ly One block north of Couch's Wharf.**UNION IRON WORKS,**
Sacramento.**WILLIAMS, ROOT & NEILSON,**
MANUFACTURERS OF**STEAM ENGINES, BOILERS,**
And all kinds of Mining Machinery.Also, Hay and Wine Presses made and repaired
with neatness, durability and dispatch.Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old cylinders, manufactured
to order.Front Street, between N and O streets,
14v11 SACRAMENTO CITY**JOHN WRIGHT,****Pick Manufacturer,**
No. 239 Fremont street, between Howard and Folsom,
SAN FRANCISCO,Has always on hand a general assortment of PICKS for
Quartz and Surface Mining.
Particular attention is called to his RAISED EYE
QUARTZ PICK, which is especially adapted to Quartz Min-
ing, and guaranteed to give good satisfaction. 18v13-y**GEORGE T. PRACY,**
MACHINE WORKS,
Nos 109 and 111 Mission street, between Main and Spear,
SAN FRANCISCO.**STEAM ENGINE, FLOUR AND SAW MILL**
And Quartz Machinery, Printing Presses,—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND
REPAIRED.
Special attention paid to Repairing. 18v13-3

T. G. DURNING.

J. F. FISHER.

PACIFIC FILE FACTORYNo. 53 Beale Street,
Between Market and Mission streets, San Francisco.FILES REPUT AND WARRANTED AS GOOD AS NEW,
or no charge. The only establishment in the State.
We also manufacture Reaper and Mower Sections.
8v13-ly **DURNING & FISHER, Prop'rs.**

LEWIS COFFEY.

J. S. GIBSON

LEWIS COFFEY & RISON,
Steam Boiler & Sheet Iron Works.THE only exclusively Boiler Making establishment on the
Pacific Coast owned and conducted by Practical Boiler
Makers. All orders for New Work and the repairing of Old
Work, executed as ordered, and warranted as to quality.
Old Stand, corner of Bush and Market streets, opposite
Oriental Hotel, San Francisco.**GLOBE****Foundry and Machine Shop,**
STOCKTON, CAL.**KEEP, BLAKE & CO.,**

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam
Engines, Horse Powers,Mining and Irrigating Pumps, Car Wheels, Derrick Iron,
House Fronts, Iron Fencing, Balcony Railings, etc.,
at San Francisco prices. Orders solicited
13v13-ly and promptly executed.**Pacific Forge Company.****FORGING AND IRON WORK.**THE PACIFIC FORGE COMPANY HAVE JUST RE-
ected, in this city, on Fourteenth street, near the machine
shop of the San Jose Railroad, a large establishment for the
purpose of forging and working in wrought iron. Our ham-
mer is the largest upon this coast, and we are prepared to
manufacture, at short notice, all kinds of heavy forgings,
car axles, shafts, steamboat cranks, piston-rods, wagon
axles, and other similar work. This is the first general
shop of the kind erected in this State, and we solicit the
patronage of the public. All orders executed at reasonable
rates, and with promptness and satisfaction. 19v12-3m

F. M. BACON.

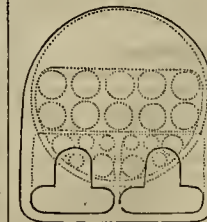
LINAS STEWART.

BACON & STEWART,
PRACTICAL MACHINISTS,
No. 51 Beale street, San Francisco.All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING PRESS work.
All jobs entrusted to us will be attended to with prompt-
ness and on reasonable terms. The patronage of Printers is
respectfully solicited. 18v13-ly**J. O. HANSCOM & CO.,**
J. S. SMITH, J. F. PENDERGAST,
W. W. HANSCOM.**Etna Iron Works!**Southeast corner Fremont and Tchama streets,
SAN FRANCISCO.Practical Machinists and Iron Founders,
MANUFACTURE**STEAM ENGINES,**QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS.Dunbar's Improved Self-Adjusting
PISTON PACKING,Now so extensively used in the East and in this State. Re-
quires no springs or screws; is always steam-tight; without
excessive friction, and never gets slack or leaky.**HANSCOM'S CRUSHER,**
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and
Amalgamator,Which only needs examination to be appreciated.
Tyler's Improved Water Wheel,Giving greater power, at lower cost, than any wheel in use
Send for one of our circulars, giving full tables.
All Wheels warranted to give the power as set forth, or
the money will be refunded.Sole makers for this coast of the "Pendergast"
White Iron Stamp Shoes, and Dies.None genuine unless obtained from us. Every one war-
ranted.
Patented Machinery of all kinds will be furnished by us
at market prices. Particular attention given to drawings
and specifications of machinery, which will be made to
order. The patronage of the public is respectfully solicited.
18v12**FULTON**
Foundry and Iron Works.**HINCKLEY & CO.,**

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Brodie's
Improved Crusher, Mining Pumps,
Amalgamators, and all kinds
of Machinery.Nos. 45, 47 and 49 First street, between Market and Mis-
sion street, San Francisco. 3-qy**NEPTUNE IRON WORKS,**
Corner of Mission and Fremont Streets,
SAN FRANCISCO.**MARINE,**
Locomotive,
And all kinds of
HIGH PRESSURE**Steam Boilers**MADE.
All Boilers guaranteed and
tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.All kinds of Sheet Iron and
Water Pipe, Good Oil
Stills, Wrought Iron
Worms, etc., etc.
Manufactured to Order.**Old Boilers Repaired**
D. CAMERON.

6v12-ly

THE "FREEZE OUT" GAME.—The Shasta
Courier of Nov. 10th, has an editorial on this
subject, a portion of which we copy: "We
have ever opposed the plan of applying to capi-
talists for means to open our mines. Either
sell or have nothing to do with the moneyed
mao. On other terms than as a purchaser let
him aloof, for the moment you enter into co-
partnership with him you have undertaken the
task of playing with edged tools without being
wounded."

In the South Fork district capitalists have
undertaken to open two lodes—the Chicago
and Big Central. What is the result? They
have done work enough to satisfy themselves
of its richness, without going far enough to
admit of the work paying. Orders were then
given to suspend work. Capital will proceed
no farther until the whole thing is placed in
its hauds, on its own terms; and poverty, dis-
gust, or some other potent cause will induce
owners to part with what, under favorable cir-
cumstances, would be a fortune, for a soog, and
sing it themselves.

San Francisco capital is too much concen-
trated. There is lack of competition, for the
reason that it is so easy to combine and consoli-
date all the capital held for mining purposes;
hence, our miners owning rich quartz claims
can only protect themselves by combining, and
jointly work to develop their mines so as to
attract capital from the Atlantic side and from
Europe. They must adopt the system of "help
one another," or the concentrated capital of
the mining sharps of San Francisco will play
them out—completely freeze them out!"

GOLD IN THE COAST RANGE.—The Healds-
burg Standard has the following:

Considerable excitement was manifested in
town on Monday and Tuesday, about the re-
ported discovery of a rich quartz ledge above
here, on Russian river. We are informed that,
at the depth of forty or fifty feet, a ledge was
struck, and so rich that particles of gold could
be seen through it. That there are small
deposits of gold in the Coast Range is un-
doubtedly true, but further than this we are
skeptical.

CALIFORNIA BRASS FOUNDRY.No. 125 First street, opposite Minna,
SAN FRANCISCO.ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal
Castings, Brass Ship Work of all kinds, Spikes, Sheathing
Nails, Rubber Braces, Hinges, Ship and Steamboat Belts and
Gongs of superior tone. All kinds of Cocks and Valves, Hy-
draulic Pipes and Nozzles, and Hose Couplings and Connec-
tions of all sizes and patterns, furnished with dispatch.

PRICES MODERATE. 18v13-1y

V. KINGWELL. J. H. WEED.

SAN FRANCISCO**Foundry and Machine Works,**N. E. Cor. Fremont and Mission streets,
Manufacturers of**Marine and Stationery Engines**
Quartz Machinery, Saw, Flour and Sugar Mills, Mining
Pumps, Hoisting Gear, Agricultural Implements, etc.—ALSO—
Wine, Cider, Cotton and Tobacco Presses
of the latest Improved Patterns.**STEAM ENGINES AND BOILERS,**Of all sizes, constantly on hand; Quartz Mill Shoes and
Dies warranted to be made of the best white iron.
Dunbar's Improved Self-Adjusting Piston-
Packing, requires no springs or screws; is always steam-
tight, without excessive friction, and never gets slack or
leaky.**MACHINERY, OF ALL DESCRIPTIONS,**
Bought, sold, or exchanged. Bolt Cutting and Castings at
the lowest market rates.6v11-ly **DEVOE, DINSMORE & CO****JAMES MACKEN,****COPPER SMITH,**

No. 226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best
manner. Particular attention paid to Steamboat, Sugar
House and Distillery work.Repairing promptly and neatly attended to.
13v11**JOHN LOCHHEAD'S****Steam Engine Works,**

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.**HOISTING AND PUMPING ENGINES,**
PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland
navigation is called to the**Superior Workmanship**of Mr. LOCHHEAD, who has been in the business in San
Francisco for the last fourteen years, and enjoys the repu-
tation of having built ONE HUNDRED AND SEVENTEEN
STEAM ENGINES.
Screw Propellers of all kinds, and Steam Boat Machinery
generally, made to order, and warranted to give perfect
satisfaction in every particular. 25v12-3mIt contains correspondence from different sections, giv-
ing accounts of new discoveries in gold, silver and cop-
per, and should be taken by every person that wishes to
keep well posted on the developments of our State and the
Territories.—[Mountain Messenger.]

WHY A PIANO JINGLES.—Mr. Wilde, a piano maker and tuner in Washington city, has discovered the reason why a piano sometimes emits jingling sounds, as if some screw was loose inside, or some of the strings were loose and jarred together. Mr. Wilde insists that it is something in the room, and not the piano, that produces the jingling. A pane of glass will be found loose, and its key note in exact unison with the piano note. Whenever this note is struck the glass sounds, in accordance with the sympathetic law of acoustic vibration. Sometimes a clock that has run down produces the jingle.

GASTON'S AMALGAMATING PAN.—The Nevada Gazette of Nov. 10th, says of this pan: "It has been in operation at Stiles' mill for the past three weeks. Quite a number of practical millmen have examined it since it was started in operation, all of whom express a favorable opinion of it, and it is adapted for working either gold or silver ores. The motion of the 'screw' is such as to keep all the pulp in constant action, and bring it in regular order under the millers. In amalgamating, the rate of the speed is slackened and the motion reversed.

MELLVILLE C. KEITH, M. D.

Homeopathic Physician,
No. 655 Howard Street, between Second and Third,
SAN FRANCISCO.
Devotes special attention to CANCER, PARALYSIS and
CHRONIC DISEASES. Consultation free.
18V13 6m1r

Bell's Assay Office.

THE UNDERSIGNED, HAVING FORMED A COPARTNERSHIP this day, would inform the former patrons and the public generally, that they will continue the ASSAY BUSINESS in all of its branches, at the old stand,

No. 512 California street,

One door west of Montgomery, San Francisco, with the same employees, under the name of Rogers & Brown.
MR. EDWARD WOLLER, for the last seven years Assayer for Mr. Bell, will have charge of the Assay Department.

The Melting Department will be under the charge of MR. HENRY J. FISHER, for ten years in the United States Mint in this city and Philadelphia, and for the past seven years with Mr. Bell.

We would inform Photographers that we are prepared to work their chloride of silver and ashes from their paper clippings.

We have, in connection with our Assay business a MILL, and are prepared to

WORK GOLD AND SILVER ORES,
In quantities from 25 to 500 pounds; also, Assayers' Sweeps.

**GEORGE E. ROGERS,
H. W. BROWN.**
October 13, 1866. 18V13 41p1r

QUINCY HALL

CLOTHING EMPORIUM!

515, 517 and 519 Washington street,
(Near Montgomery),
SAN FRANCISCO.

For a Dress Suit,

A Business Suit, or

A Working Suit,

GO TO QUINCY HALL!

For Shirts, Collars, Drawers, Undershirts, Socks,
Ties, Gloves, or any other FURNISHING GOODS,
GO TO QUINCY HALL!

For Hats, Caps, Trunks, Valises and Carpet Bags,
JUST GO TO QUINCY HALL!

If you want a SUIT MADE TO ORDER, of Foreign or
Domestic Cloth,

ALWAYS GO TO QUINCY HALL!

IT IS THE LARGEST AND CHEAPEST CLOTHING
HOUSE IN SAN FRANCISCO.

All Goods Warranted as Represented

—AT—

QUINCY HALL,

No. 515, 517 and 519 Washington street,
18V13 3m1r Next to Montgomery.

HAYWARD, COLEMAN & CO.,

IMPORTERS AND REFINERS

—OF—

Illuminating, Lubricating,
—AND—
PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT POLAR,
TANNERS', NEATSFOOT, BOILED AND RAW
LINED, CASTOR AND CHINA NUT.

—ALSO,—

SPIRITS OF TURPENTINE & ALCOHOL

Work.—We would specially call the attention of MILL
owners and Engineers to our superior PARAFFINE OIL,
which we manufacture from the California Petroleum.
This Oil will not gum. Machinery thoroughly cleaned and
lubricated with it will not heat, and after remaining at rest,
can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded
on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand. 4V13 3m1r
414 Front street, San Francisco.

THE MINING PRESS is particularly the miners' Journal,
and is doing more for the solid interests of the State than
any other, by enabling its readers to unlock the mines of
untold wealth which lie waste around them.—[Mountain
Messenger.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.

International Hotel,

JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT
order for the accommodation of guests. Persons seeking
comfort and economy will find this the best Hotel in
the city to stop at. The Beds are new and in good order,
and the Rooms well ventilated. The Table will always be
supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for
Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED
TO THE HOUSE.

Teams belonging to the House will be in attendance
at all the boats and cars to convey passengers to the House
free of charge, and to any part of the city for 50 cents.
2V12 P. E. WEYGANT, Proprietor.

GOVERNMENT HOUSE,

Corner of Sansome and Washington sts.,
SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN
every direction, every ten minutes.
The rooms of the House are well furnished, large
and airy, are let by the month, week or day, and are
kept in superb order. There is a Restaurant attached for
ladies and families, where persons can board for one-half
they are required to pay at hotels.
17V13-6m SANBORN & CO.

WHAT CHEER HOUSE,

SACRAMENTO.
Fire-Proof Brick Building, corner Front and K Streets,
opposite Steamboat Landing.

Meals.....25 cents
Board, per week.....\$1.00
Board and Lodging, per day.....1.00
Single Rooms......50
Railroad Ticket Office and Stage Office on first floor.
7V12 3m A. J. SENATZ, Proprietor.

Rheumatism!!

ANOTHER WITNESS!

SALMON FALLS, June 17, 1866.
H. BOWMAN—DEAR SIR: HAVING HAD A FAIR
test of the virtues of RICHARDS' REMEDY FOR RHEU-
MATISM, I take great pleasure in stating that its effects were
completely recovered, the use of my limbs, which had be-
come almost powerless, so much so that I could not dress
myself without assistance. Since that time I have been
free from Rheumatism. I have recommended RICHARDS'
Remedy to numerous friends, and in every case it has proved
successful. I therefore take great pleasure in recommending
it to all who are afflicted with Rheumatism, and espe-
cially to all mercurial chronic Rheumatism cases.
Yours respectfully,
(Signed) ERASTUS PARSONS,
President of the Gen. Grant Mining Company.

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H. BOWMAN,
Druggist, Sacramento.
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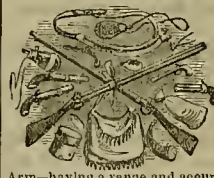
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SMALLEST average expenses, it therefore affords in-
surance at LESS COST than any other Company.

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Insurance can be effected in this Company in all the
forms desired, and to meet all the contingencies to which
Life Insurance is applicable, among which forms are—

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stipulated.

ALL POLICIES issued by this Company are either non-
forfeitable by their terms, or may be converted into those
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The Company offers all the advantages of a CASH or
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ferred, pay the first four premiums in cash after which their
dividends on Annual Premium Life, and Continued Pre-
mium Endowment Policies, will, if the past success of the
Company is continued, reduce their premiums one-half.
When notes are given for Annual Life and Continued En-
dowment Premiums, no notes will be required after the
fourth payment, and to return surplus-dividends—
will be applied as cash to the reduction of the annual
premium.

None but Unexceptional Risks Accepted; and
only upon ages between Fourteen and Sixty.

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E. B. WATKINSON, JOHN C. PALMER,
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Z. PRESTON, Vice-President.
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General Agents Pacific Coast,
Office, N. W. corner Montgomery and Sacramento streets,
San Francisco. 17V13 p11

Accidental Insurance!

The Accidental Insurance Company
OF NEW YORK,

ISSUES POLICIES INSURING AGAINST INJURIES OF
all kinds, and death resulting from accident.
In case death does not result from the injury, the insured
receives a weekly compensation as long as he is disabled
(not to exceed twenty-six weeks).

ONE YEAR POLICIES.

\$5 will buy Policy for \$1,000, with weekly compensa-
tion of \$5.
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tion of \$10.
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tion of \$50.

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Policies will also be issued for any other amounts within
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This Company also issues Tickets, which are sold by
many of its Agents at Hotels and Ticket Offices through-
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They make Insurance for \$5,000, and \$25 per week com-
pensation, against Accidents of every description, Traveling
or otherwise; good for one to six days, as required, at
TWENTY-FIVE CENTS PER DAY.

They are not simply Travelers' Insurance Tickets which
cover only injury or death, the result of an "Accident to
the Public" conveyance in which the assured may at the
time be traveling, but they are GENERAL ACCIDENT
TICKETS.

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Are issued, covering the risks of travel to European and
other Ports. Rates varying with the season, and the voy-
age to be taken. Information can be had of the Company
or its Agents.

The Company has a PAID UP CASH CAPITAL OF
\$250,000. One hundred thousand dollars deposited with
Wm. BARRETT, Esq., Superintendent of the Insurance Depart-
ment of the State of New York, and the remainder securely
invested in Stocks in the hands of the Company.

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The rates of Premium are very low.

The Plan is so simple that any one can comprehend all
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No Medical EXAMINATION is required, and those who
have been rejected by Life Companies, in consequence of
hereditary or other diseases, can effect Insurance in this
Company at a very small cost.

No better or more satisfactory use can be made of so
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Monuments, Tombs, Plaster Slabs.
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Goods shipped to all parts of the State. Orders so
promptly solicited. 6v8-3m

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Barstow's Metallic Barial Caskets and Cases,
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GREAT IMPROVEMENT IN SEWING MACHINES.
Empire Shuttle, Crank Motion Sewing Machine. It is
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Manufacturing Machine, for Tailors and Boot and Shoe
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Every article made at the above Works is WARRANTED
PERFECT, and made of pure, soft, refined LEAD. Orders
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THOS. H. SELBY & CO.,
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Plumbers and Gas-Fitters,
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BUILDINGS FITTED UP WITH GAS,
WATER AND STEAM PIPES, and all work Warranted.
Have constantly on hand an assortment of Gas-Fixtures,
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Will make Surveys and Examinations of Mines, or give
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chinery, etc.
Office at Union Iron Works, corner of First and Mission
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11v22-2q

SHERMAN DAY,
Mining Engineer,
No. 67 Montgomery Block, San Francisco.
Will examine, survey and report upon mines, and consult
and advise concerning investments in mining property, or
the machinery management and expenditures of mines.
22q

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Drawings of Models made for parties applying for pa-
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Between Montgomery and Kearny Streets
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specimens before being elsewhere, will prove the truth of
the above assertion. Prices—the lowest adopted by the
Association of Artists. Remember the place, 611 Clay
street. 11v13-2m

Pacific Mining Agency.
ALMARIN B. PAUL,
N. E. cor. California and Kearny sts., up-stairs,
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THROUGH LINE TO NEW YORK,
Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11
P. M., O'clock A. M. of the following dates, for
PANAMA, connecting via Panama Railroad, with one of
the Company's splendid steamers from ASPINWALL for
NEW YORK.
On the 10th, 18th and 30th of each month that has
30 days.
On the 10th, 19th and 30th of each month that has
31 days.
When the 10th, 19th and 30th fall on Sunday, they will
leave on Saturday preceding; when the 18th falls on Sun-
day, they will leave on Monday following.
Steamer leaving San Francisco on the 10th touches at
Manzanillo. All touch at Acapulco.
Departures of 18th or 19th connect with French Trans-
Atlantic Co.'s steamer for St. Nazaire, and English steamer
for Southampton, and P. R. Co.'s steamer for Central
America.
Departure of the 30th connects with English steamer for
Lima, the port of the new mines.
The following Steamships will be dispatched on dates as
given below:
November 30th—GOLDEN CITY.....Capt. Jas. T. Watkins
Connecting with OCEAN QUEEN, Capt. Howes.
Cabin passengers berthed through. Baggage checked
through—100 pounds allowed each adult.
An experienced Surgeon on board. Medicine and attendance
free.
These steamers will positively sail at 11 o'clock. Passen-
gers are requested to have their baggage on board before 10
o'clock.
Through Tickets for Liverpool by the Inman Line, can
be obtained at office P. M. S. Co., San Francisco.
For Merchandise and Freight apply to Messrs. WELLS,
FARGO & CO.
The splendid steamship COLORADO will be dis-
patched for CHINA on TUESDAY, January 1, 1887.
For passage and all other information, apply at the Pa-
cific Mail Steamship Co's office, corner of Sacramento and
Leidsdorff streets.

OLIVER ELDRIDGE, Agent.
Delays are Dangerous.—Inventors on the Pacific
Coast should bear in mind that by patronizing our Patent
Agency they can sign all necessary papers for securing pa-
tents almost immediately, thereby avoiding the three
months' delay requisite in transacting business through
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States (marked via Bremen and Hamburg line), three cents
per copy, prepaid. Single copies to any address in the United
States, two cents.

OLNEY & CO., Auctioneers,

418 Montgomery street, San Francisco.
Administrators's Sale of Real Estate.

NOTICE IS HEREBY GIVEN, THAT IN PURSUANCE
of an order of the Probate Court of the City and
County of San Francisco, In the State of California made
on the fifth day of November, A. D. 1886, in the matter of
the estate of ELIZA ANN DOUGLAS, deceased, the under-
signed, the Administrator of said estate, will sell at public
auction, to the highest bidder, for cash, in one parcel, and
subject to confirmation by said Probate Court, on MON-
DAY, the third day of December, A. D. 1886, at 12 o'clock,
P. M., at the auction rooms of Olney & Co., No. 418 Mont-
gomery street, in the City and County of San Francisco, all the
right, title, interest and estate, of the said intestate at the
time of her death, and all the right, title and interest that the
said estate has, by operation of law or otherwise, acquired
other than or in addition to that of the said intestate at the
time of her death, in and to all that certain lot, piece, or
parcel of land, situate, lying, and being in the said City and
County of San Francisco, State of California, and bounded
and described as follows, to wit:
Commencing at a point in the southerly line of Broad-
way street, distant one hundred and fourteen feet six
inches easterly from the southeasterly corner of Broadway
and Powell streets; thence southerly at right angles to
Broadway street and parallel with Powell street seventy-
seven feet six inches; thence at right angles westerly nine
feet six inches; thence at right angles southerly and
parallel with Powell street nineteen feet four inches;
thence at right angles easterly three feet six inches; thence
at right angles southerly and parallel with Powell street
forty feet eight inches; thence at right angles easterly
thirty-nine feet six inches; thence at right angles north-
westerly and parallel with Powell street one hundred and
thirty-seven feet six inches to the southerly line of Broad-
way street; thence westerly along the said line of Broad-
way street twenty-three feet six inches to the point of
beginning.
Terms and conditions of sale: Cash—ten percent of the
purchase money to be paid to the auctioneer on the day of
sale; balance on confirmation of sale by said Probate
Court; deed at expense of purchaser.
SAMUEL S. MURPHY,
Administrator of the Estate of Eliza Ann Douglas, deceased.
San Francisco, November 10th, 1886. 19v13

California Steam Navigation
COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE.
" CHRYSOPOPOLIS.....CAPT. A. FOSTER.
" YONEMIE.....CAPT. W. BROMLEY.
" JOHNNIE.....CAPT. E. COLEMAN.
One of the above steamers leave BROADWAY WHARF
at 4 o'clock P. M. EVERY DAY (Sundays excepted), for
Sacramento, Colusa, Colusa, Chico and Red Bluff.
Steamships AJAX, PACIFIC, ORIZABA, CALIFORNIA,
ACTIVE and SENATOR, leave, as advertised, for Hon-
olulu, Portland, Oregon, New Westminster, British Colum-
bia, Victoria, V. I., Santa Barbara, San Pedro, and San
Diego.
Office of the Company, northeast corner of Front and
Jackson streets.
B. M. HARTSHORNE,
President.
13v12

New Mining Advertisements.

Hope Gravel Mining Company. Location of
Works and Property: Grass Valley, Nevada County,
California.
Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the fifteenth day of
November, 1886, an assessment (No. 11) of one dollar per
share was levied upon the capital stock of said Company,
payable on the seventeenth day of November, 1886, in gold
coin of the United States, to pay to the Secretary, at the
office of the Company, No. 623 Clay street, San Fran-
cisco, Cal.
Any stock upon which said assessment shall remain un-
paid on Saturday, the twenty-ninth day of December, 1886,
shall be deemed delinquent, and will be duly advertised for
sale at public auction, and unless payment shall be made
before, will be sold on Monday, the eleventh day of Janu-
ary, 1887, to pay the delinquent assessment, together with
costs of advertising and expenses of sale. By order of the
Board of Trustees.
DAVID WILDER, Secretary.
Office, No. 623 Clay street, San Francisco, Cal. n24-5w

Keystone Mining Company. Location of Works
Copperopolis, Calaveras County, California.
Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the twenty-first day of
November, 1886, an assessment of ten dollars (\$10) per share
was levied upon the capital stock of said Company, pay-
able immediately, in United States gold coin, to the Secre-
tary, at his office, No. 440 California street, San Francisco,
California.
Any stock upon which said assessment shall remain un-
paid on Monday, the twenty-first day of January, 1887, shall
be deemed delinquent, and will be duly advertised for sale
at public auction, and unless payment shall be made be-
fore, will be sold on Monday, the eleventh day of Febru-
ary, 1887, to pay the delinquent assessment, together with
costs of advertising and expenses of sale. By order of the
Board of Trustees.
O. P. SUTTON, Secretary.
Office, 440 California street, San Francisco. n024

Lady Bell Copper Mining Company, Low Divide
Mining District, Del Norte County, California.
Notice.—There are delinquent, upon the following de-
scribed stock, on account of assessment levied on the
eighteenth day of October, 1886, the several amounts set
opposite the names of the respective shareholders, as
follows:
Names. No. Certificate. No. Shares. Amount.
Nicholas Tack.....271 100 \$10 00
Nicholas Tack.....272 100 10 00
Nicholas Tack.....273 50 5 00
Nicholas Tack.....274 50 5 00
D. P. Richards.....275 60 6 00
D. P. Richards.....276 50 5 00
D. P. Richards.....277 50 5 00
D. P. Richards.....278 50 5 00
D. P. Richards.....279 50 5 00
D. P. Richards.....280 50 5 00
And in accordance with law, and an order of the Board of
Trustees, made on the eighteenth day of October, 1886, so
many shares of each parcel of said stock as may be neces-
sary, will be sold at public auction, at the auction rooms of
Maurice Dore & Co., 327 Montgomery street, San Francisco,
Cal., on Monday, the tenth day of December, 1886, at the hour
of 12 o'clock, P. M., of said day, to pay said delinquent as-
sessment thereon, together with costs of advertising and ex-
penses of sale.
C. HEYWOOD, Secretary.
Office, 311 Market street, San Francisco, Cal. n024

Pacific Coal Mining Company, Contra Costa
County, near Antioch.
Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the twenty-third day of
November, 1886, an assessment of five dollars (\$5) per share
was levied upon the capital stock of said Company, pay-
able immediately, in United States gold and silver coin,
to the Secretary, at his office, Nos. 623 and 630 Clay street,
San Francisco.
Any stock upon which said assessment shall remain un-
paid on Monday, the twenty-third day of December, 1886,
shall be deemed delinquent, and will be duly advertised for sale
at public auction, and unless payment shall be made before,
will be sold on Monday, the twenty-first day of January, 1887,
to pay the delinquent assessment, together with costs of
advertising and expenses of sale. By order of the Board of
Trustees.
A. DURAND, Secretary.
Office, Nos. 623 & 630 Clay street, San Francisco. nov 24

Providence Gold and Silver Mining Company,

Nevada County, California.
Notice.—There are delinquent, upon the following de-
scribed stock, on account of assessment levied on the
eighteenth day of October, 1886, the several amounts set
opposite the names of the respective shareholders, as
follows:
Names. No. Certificate. No. Shares. Amount.
Ewd F. Benk.....253 30 \$50 00
Ewd F. Benk.....256 15 25 00
Q. A. Chase.....254 5 10 00
Q. A. Chase.....(No certificate) 105 210 00
T. P. Clark.....51 5 10 00
J. C. Collins.....233 10 20 00
J. C. Collins.....234 10 20 00
Wm Davis.....166 20 40 00
Wm Davis.....168 20 40 00
Wm Davis.....209 5 10 00
W. H. Dingley.....248 5 10 00
A. Folsom.....9 5 10 00
A. Folsom.....13 5 10 00
H. S. Huntington.....34 60 100 00
H. S. Huntington.....173 87 1/2 175 00
F. A. Huntington.....35 24 00
F. A. Huntington.....174 10 20 00
Chas. Hanson.....36 10 20 00
Chas. Hanson.....37 10 20 00
Chas. Hanson.....38 20 40 00
Chas. Hanson.....172 5 10 00
C. Haddell.....152 23 46 00
Abm Hall.....156 20 40 00
Abm Hall.....157 12 1/2 25 00
Abm Hall.....141 10 20 00
Abm Hall.....206 10 20 00
Abm Hall.....207 10 20 00
A. Kohler.....30 60 100 00
O. C. Mitchell.....219 5 10 00
Mrs. A. M. Richards.....255 15 30 00
J. Mathew sanoner.....171 10 20 00
H. T. Thohrn.....38 2 4 00
W. W. Whitman.....258 5 10 00

And in accordance with law, and an order of the Board
of Trustees, made on the eighteenth day of October, 1886,
so many shares of each parcel of said stock as may be ne-
cessary, will be sold at public auction, by Olney & Co., No.
418 Montgomery street, San Francisco, Cal., on the eighth
day of December, 1886, at the hour of 12 o'clock P. M. of
said day, to pay said delinquent assessment thereon, together
with costs of advertising and expenses of sale.
J. M. BUFFINGTON, Secretary.
Office, No. 10 Government House, San Francisco. nov24

Mining Notices--Continued.

Adella Gold Mining Company, Rock Creek,
Sierra County, California.
Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the nineteenth day of
October, 1886, an assessment of one (\$1) dollar per share
was levied upon the capital stock of said Company, pay-
able immediately, in gold coin, to the Secretary, at 410
Market street, San Francisco, Cal.
Any stock upon which said assessment shall remain un-
paid on Saturday, the fourth day of November, 1886, shall
be deemed delinquent, and will be duly advertised for sale
at public auction, and if payment is not made before,
will be sold on Saturday, the fifteenth day of December,
1886, to pay the delinquent assessment, together with costs
of advertising and expenses of sale. By order of the Board
of Trustees.
A. C. TAYLOR, Secretary.
Office, 410 Market street, San Francisco, Cal. o037

Arbitros Mining Company, Batopilas Dis-
trict, State of Chihuahua, Mexico.
Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the thirty-first day of
October, 1886, an assessment (No. 12) of one dollar and a
half (\$1.50) per share was levied upon the assessable capital
stock of said Company, payable immediately, in United
States gold and silver coin, to the Secretary, at his office,
No. 811 Montgomery street, up-stairs, San Francisco, Cal.
Any stock upon which said assessment shall remain un-
paid on the fourth day of December, 1886, shall be deemed
delinquent, and will be duly advertised for sale at public auc-
tion, and unless payment shall be made before, will be sold
on Saturday, the twenty-seventh day of December, 1886,
to pay the delinquent assessment, together with costs of ad-
vertising and expenses of sale. By order of the Board of
Trustees.
A. MARTINON, Secretary.
Office, 811 Montgomery street, San Francisco, Cal.
N. B.—Until further notice, all advertisements of this
Company will appear in the Mining and Scientific
Press. n03

Chilpanco Mining Company--District of Ures,
Sonora, Mexico.
Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the thirty-first day of
October, 1886, an assessment of five (\$5) dollars per share
was levied upon the capital stock of said Company, pay-
able immediately, in United States gold and silver coin, to
the Secretary, at his office, No. 318 California street, up-
stairs, San Francisco, Cal.
Any stock upon which said assessment shall remain un-
paid on the first day of December, 1886, shall be deemed
delinquent, and will be duly advertised for sale at public auc-
tion, and unless payment shall be made before, will be sold
on Monday, the seventh day of December, 1886,
to pay the delinquent assessment, together with costs of ad-
vertising and expenses of sale. By order of the Board of
Trustees.
JOHN F. LOHSE, Secretary.
Office, 318 California street, Up-stairs, San Francisco, Cal.
n03

Chapparral Hill Gold and Silver Mining Com-
pany, Albany Flat or Hill District, Calaveras County,
California.
Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the seventh day of
November, 1886, an assessment of fifteen cents (15) per share
was levied upon the capital stock of said Company, pay-
able on the fifteenth day of November, 1886, in United States
gold and silver coin, to the Secretary, A. DE SENALLHAC,
at the Company's office, 606 Montgomery street, San Fran-
cisco, Cal.
Any stock upon which said assessment shall remain un-
paid on the tenth day of December, 1886, shall be deemed
delinquent, and will be duly advertised for sale at public auc-
tion, and unless payment shall be made before, will be sold
on Monday, the thirty-first day of December, 1886, to pay
the delinquent assessment, together with costs of advertis-
ing and expenses of sale. By order of the Board of Trust-
ees.
A. DE SENALLHAC, Secretary.
Office, 606 Montgomery street, San Francisco. n010

Colorado Silver and Copper Mining Company.
Notice.—The Annual Meeting of the stockholders of the
Colorado Silver and Copper Mining Company, will be held at
the Company's office, No. 623 Clay street, San Francisco,
on MONDAY, December 24th, 1886, at 3 o'clock P. M., for the
election of Trustees, and the transaction of such other bus-
iness as may properly come before it.
n010-4w B. W. MUDGE, Secretary.

Del Norte Comstock Company, Low Divide
District, Del Norte County, California.
Notice is hereby given, that the Annual Meeting of the
shareholders of the above named Company will be held on
MONDAY, the third day of December, 1886, at 7 1/2 o'clock
P. M., at the office of the Company, No. 331 Montgomery
street, San Francisco, for the election of Trustees to serve
the ensuing year, and for the transaction of other business.
R. N. VAN BRUNT, Secretary.
San Francisco, November 15, 1886. n010

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

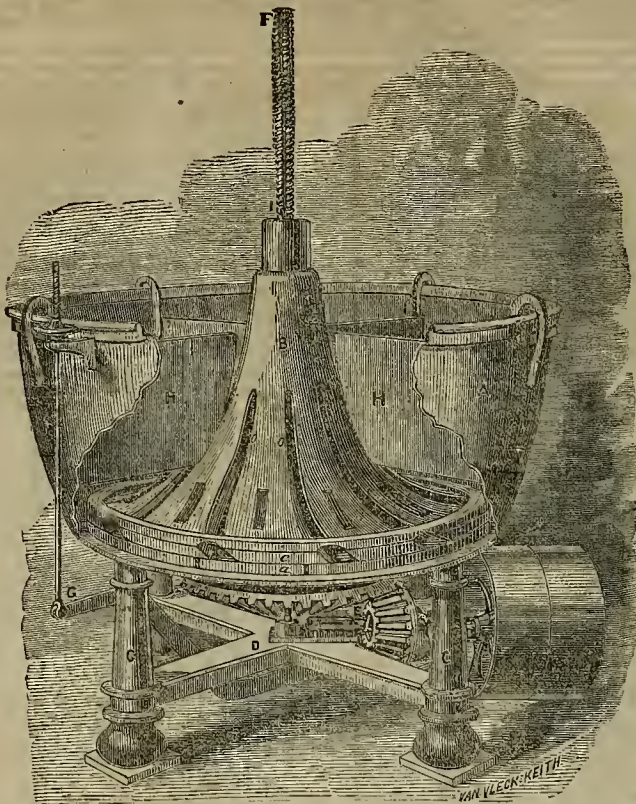
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works.

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

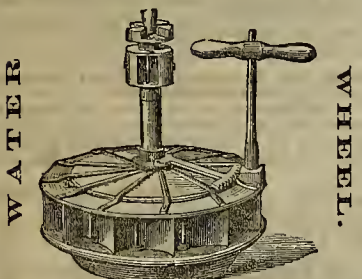
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the

PACIFIC FOUNDRY,
San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 3,000 inches of water, and from 4 feet to 300 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to KNAPP & GRANT, -ALSO- San Francisco.

Leffel's Lever Jacks, For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by KNAPP & GRANT, San Francisco, 1212-3m.

Notice to Miners, Well-Borers and Water Companies.

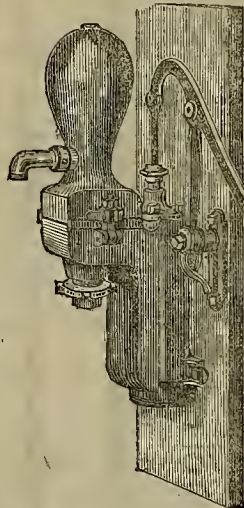
M PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,
8v13-1y Store Store, No. 125 Clay street, below Davis.

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the Mining and Scientific Press Patent Agency. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

The Hansbrow Pumps

ARE WARRANTED THE



BEST PUMPS OFFERED.

All Sizes, for any Purpose.

FOR SALE BY

LOCKE & MONTAGUE,

112 and 114 Battery Street,
SAN FRANCISCO.
16v13-2m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada. Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,
19v12 416 Market street, San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

114 Beale Street, San Francisco.
2v12 3m

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery
OF ALL KINDS.

Especial attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—
Governor F. F. Low; Coffey & Risdon, San Francisco;
C. T. Meader, Stockton; Geo. K. Glayas, Chief Engineer of Cal. S. Nav. Co., San Francisco;
Jacob Underhill & Co., San Francisco;
J. W. Stowe, Russell & Erwin Manufacturing Company; Office, No. 120 Front street, San Francisco. 4v12

FOR SALE!

QUARTZ AND MINING MACHINERY.

ONE GARDNER'S THUNDERBOLT CRUSHER, LARGEST size and best quality, is entirely new, with all extras—with a large lot of other Quartz Machinery, including Engines, Boilers, etc. 16v13 COFFEY & RISDON.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by THOMAS H. SELBY & CO., 2v12 3m Nos. 116 and 118 California street

J. MARSHALL

W. WYLLIE

GLASGOW

IRON AND METAL IMPORTING CO.,

No. 27 Fremont street,

SAN FRANCISCO.

Be to inform purchasers that they have just received a large stock of Glasgow and Staffordshire best refined Bar Iron, Boiler Plate, Anvils, Cast Steel, Boiler Tubes, Gas and Water Pipes, GAS FIXTURES, etc. They offer the same for cash, on liberal terms, at wholesale and retail. The Company have superior facilities for supplying the constant demands of the market. Country Orders punctually attended to. 19v13 q

IMPORTANT

WORKERS OF GOLD & SILVER ORES.

THOSE INTERESTED WILL FIND IT TO THEIR ADVANTAGE to call on MR. WILLIAM SLOSSON, at Prof. W. P. Blake's Office, and obtain a Business Circular, just published by the WURTZ AMALGAMATION COMPANY of New York, who have secured, under the Patents of Prof. Henry Wurtz, the sole and exclusive right to the use of sodium in amalgamation. Mr. Slosson is prepared to supply the licenses of the Company, with the material for applying this new and wonderful discovery, by which, in the words of President Barnard, of Columbia College, "two grains of gold may be gathered where but one was before." 19v13-2m

Brevities.

THEY are using nitro glycerine again in Massachusetts for blasting purposes.

FRANCE, Italy, Belgium, and Switzerland have united to regulate the weight, title, form and circulation of their gold and silver coins.

EIGHTEEN inches of snow fell on the 5th November at the Summit crossing of the Big Tree road between Murphy's and Silver Mountain.

THE Ohio vine growers are becoming satisfied that the culture of the grape in that region is a failure. The land is being gradually given up to corn and grain.

THE work on the great dam in the American river at Folsom, belonging to the Natoma Water and Mining Company, has been discontinued for the season.

A NUMBER of prominent citizens of New York, who have been firemen, intend to organize into a company, provide uniforms, and visit the Paris Exhibition, taking a steam fire-engine with them.

THE value of quails as insect destroyers is beginning to be duly appreciated; and they are now in some places encouraged to domicile themselves in our California gardens.

THE Swedish Government has lately built three iron-clad ships of the Monitor pattern, two of which (the Ericsson and Thunder) are afloat. The third, still on the stocks at the Motala works in Norrköping is 250 feet long, with great breadth of beam. The turret is of twelve thicknesses of inch plate iron, beautifully fitted together, and enclosing two 15-inch guns.

THE silver mines of Sanium, in Greece, after a lapse of two thousand two hundred and ninety-four years, are now worked by a French company, principally for the produce of lead. The works employ continually four hundred workmen, and seven furnaces. From ten to twelve British vessels take the coal required, and bring to England cargoes of lead.

THE New York Tribune speaks of a new desulphurizing furnace invented by Prof. Thos. D. Worrall; and without describing its construction, says: "His aim was to produce a regulated, gradual passage of the finely pulverized veinstone through the intense heat of the furnace, so as to secure the complete expulsion of the sulphur, etc.; and he seems to have perfectly succeeded."

THE Colorado Journal says the first gold discovered in that country, was made at the head of Cherry creek, near Russellville, in the month of August, 1858, by a party of Georgians. Gold was afterwards found a mile or two above Denver, at the old "Spanish Diggings," and on "Dry Creek," three or four miles above the Spanish diggings. Russell's Gulch was discovered in June, 1859, and is on the headwaters of Clear Creek, about forty miles from Denver.

SAN ANTONIO, Texas, which, although it is the oldest city in the United States, with one exception,—has hitherto escaped cholera,—has been visited by that scourge within a few weeks' past. Large numbers of the people have been carried off. Business was almost totally suspended. San Antonio is considered one of the healthiest places on the Continent, and before the war was a noted place of resort for invalids from all parts of the Continent.

THE Emperor Napoleon will contribute to the Paris Exposition a model for a workman's house of his own design. The plan unites with lowliness of price all the accommodations desirable and the conditions required by the public health. By paying a moderate rent, one part of which would be devoted to a kind of sickling lund, the tenant would in a few years become the proprietor of his house.

C. F. SCHAEFER, the famous German traveler, who is making a tour of the world on foot, is now in this city en route for Mexico, Central America, and South America, and ultimately he goes to China, Japan, and the countries of the East generally. He has already traveled on foot over a large part of Europe, Africa, and Eastern Asia. He is deformed, not being over four feet, eight inches in height; yet he has already traveled seventy-five thousand miles in this manner.

NEVADA SALT SPECIMENS IN WASHINGTON. Postmaster General Randall has received from Special Post Office Agent Lawrence, a box containing specimens of mountain salt from the "Pahranaquut" mining regions. They are fine, pure and almost transparent. One of the pieces shows the face of the mountain from which all are taken; the other pieces were taken back from the surface. This salt came from a mountain of pure salt, several layers in extent and several thousand feet in height. It is situated in the extreme southern part of Nevada, between the 115th and 116th degrees of west longitude. Mr. Lawrence says these pieces are not sent as fair specimens, but in his next trip to that region he will undertake to procure a block of a foot square of such transparency that a newspaper can be read through it.

THE NEW DRY DOCK.—The work of constructing a Dry Dock at Hunter's Point is progressing with rapidity. This Point is located at the eastern end of the South San Francisco tract, and is some four miles distant from the City Hall. The *Times* says: One hundred and twenty men are employed on the work. When completed, the dock will be 450 feet long, 600 feet wide at the top and sixty at the bottom, and thirty feet in depth, making a capacity sufficient to dock any ship that floats, except the Great Eastern. The docks will be closed in the manner of the French docks, by a caisson or floating gate, which is a boat, ninety-eight feet wide at the top, sixty at the bottom, twenty-four feet high and twenty feet deep. This, when filled with water, and placed in position, sinks down across the mouth of the dock. Around the sides and bottom of the boat is a keel-like projection, which fits into grooves in the side and bottom of the dock. By opening gates and letting the water partially from the caisson into the dock the caisson rises out of the grooves and can be towed away from the mouth of the dock to let vessels enter or leave. This style of closing a stone dock is considered better than any other.

The contract price of the dock, without lining, will be \$250,000. If lining is necessary \$25,000 will be added. A bulkhead, workshops, machinery, etc., will probably cost from \$100,000 to \$150,000 more. The steam pumps will have a capacity to pump out the dock in two hours.

A QUEER FISH.—The Santa Barbara correspondent of the *Bulletin*, thus describes a fish which is found on the California coast: "This strange creature is furnished with a pair of singular appendages to the ventral fins, two inches in length, which, to the touch, are almost as soft as the udder of the cow, and on pressing them a liquid issues of the consistence of thick milk, which gives color to the stories of the fishermen of Chili and Lower California, that they suckle their young as does the fur otter, and that their fishlings are brought forth from eggs, similar to that family allied to the *Squalidae*, whose square leather egg cases are often seen on our sea shores after heavy gales. The fish, which is not common, is found as high up as Monterey Bay; weighs sometimes as much as two pounds; is like an eel; has no scales; is of a beautiful light russet; and the teeth are so small and close together that they appear like circles of thin bone. The head is as strange a feature as the ventral opposites, being furnished with a small, movable, finger-like, horny appendage, attached to the extremity of which is a knot, the figure of a strawberry covered with small spires which fits into a cavity made for it right above the nose, which is said by the fishermen to answer for bait and hook to its prey. The California species is one-fifth smaller than the European, and about a third larger than those of Coquimbo, measuring some eighteen inches in length, but very seldom found over two pounds weight—at least of some twenty we have seen none that went over that."

Mammoth Quartz Lode, Keysville District, Kern County.

"To all whom it may concern,"
ALL PARTIES negotiating for interests in the above Lode, would do well to examine titles before investing, as the legal title to a considerable portion thereof is vested in the undersigned.

WILLIAM MARSH,
W. L. KENNEDY.
16v13nr5m

CARDS Sterrett & Cubery
\$3 PRINTERS,
Per 1,000 533 Clay street,
—AND—
Lower Rates —BELOW—
—FOR— MONTGOMERY STREET.
5,000. 19v13-3m
Low Prices.

WM. A. KOLLMYER,
LOOKING-GLASS
—AND—
PICTURE FRAME MAKER,
No. 41 Third street,
19v125m Near corner of Jessie.

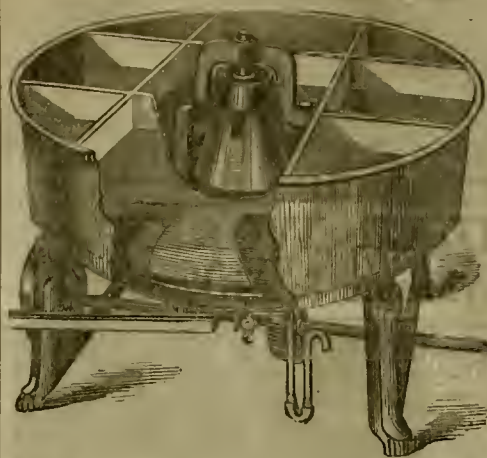
GOLD AND COPPER MINES!
Quartz Leads and Gravel Claims!
In various localities. For sale by
B. W. MUDGE,
16v13-6w 528 Clay street, San Francisco.

DR. O. DUNNING,
Respectfully informs the public that he treats ALL DIS-
EASES the human system is afflicted with, and
can be found at his office,
Rooms Nos. 13 and 14 Government House
Corner Washington and Sansome streets,
19v13-6m SAN FRANCISCO, CAL.

SUBSCRIBERS who do not receive the MINING AND
SCIENTIFIC PRESS in due time, are requested to inform the
publishers.

Knox's Improved Patent Amalgamator and Separator,

With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of,

14v13-pl2q

At the Golden State Iron Works, No. 19 First street, San Francisco.

CAUTION!

NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 27th, 1865, to Professor Henry Wurtz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR METALLIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY,
OF NEW YORK,
Assignees of letters patent granted to Prof. HENRY WURTZ, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.
The terms and conditions upon which rights to use the process are obtainable, can be had on application to
WM. SLOSSON,
Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 5v13

NEW YORK PRICES.

C. E. COLLINS,
No. 603 Montgomery street, San Francisco.
EXCLUSIVE AGENT
FOR THE
AMERICAN
WATCH FACTORY.
A large assortment of these
Superior Watches,
In Gold and Silver Cases,
Constantly on hand, and sold at Factory prices. Also,
ENGLISH AND SWISS WATCHES,
Imported directly from the Manufacturers.
The American Company are now making
VERY FINE WATCHES FOR LADIES.
A large assortment of Gold Chains and Jewelry. 25v10-6m

WATCH REPAIRING AT NEW YORK PRICES.

WATCH REPAIRING AT NEW YORK PRICES.

NEW YORK PRICES.



STANDARD SOAP COMPANY'S WASHING POWDER.

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for use in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1-lb each, and in wooden boxes of 10-lb bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15v12q

WE ARE NOW OFFERING OUR IMMENSE STOCK

Fine Custom Made Clothing

Gents' Furnishing Goods

AT PRICES THAT DEFTY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,
Cor. of Washington and Sansome streets
8v10

THIS CUT REPRESENTS AN AMALGAMATOR and Separator that has stood the test of many years' practical working in the gold mines of California, and for nearly the same time in the silver mines of Nevada, having been introduced into the first steam mills built in the then Territory, since which time they have been successfully working against all competition.

The great advantages these Amalgamators have over any others, are—

1st. Much less Cost.

2d. They do not "flour" the mercury, and collect any that may have been "sickened" in the battery or grinders.

3d. The "mashing" motion given to the pulp (by the revolution of the muller under the stationary frame) against the amalgamated copper plates that are fastened to the frame, and by this means catching the fine gold and mercury that will not settle.

4th. The gate in the cone, through which the pulp is discharged, from the top, and where there is the least motion, almost precluding the possibility of any granulated mercury or fine gold escaping.

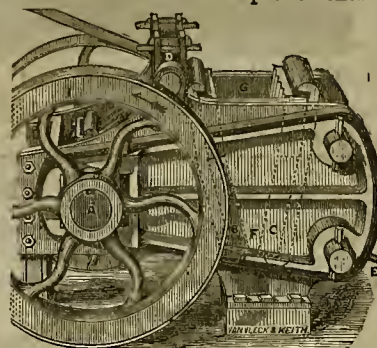
There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

ISRAEL W. KNOX, OR

W. A. PALMER, Inventors,

At the Golden State Iron Works, No. 19 First street, San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER.
The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines at the lowest of the following low terms:
No. 1.—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price \$600
No. 2.—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour—price 850
No. 3.—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour—price 1,200

EXPLANATION OF THE ABOVE ENGRAVING.
The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass over. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, drives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:

Bearings Ranch, Tuolumne Co., Sept. 28, 1866.
James Brodie, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your large sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,
R. P. JOHNSON,
Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN ANALOGATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscriber.

Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22nd, 1866.

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On the 1st of January, 1867.

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REPORT

—OF THE—

COMMITTEE

—ON—

SEWING MACHINES!

California State Fair, 1866:

"To the President of the State Agricultural Society: Your Committee on Sewing Machines beg leave to report that we have examined the several Sewing Machines on exhibition, (the Grover and Baker, the Wheeler & Wilson, and the Florence,) and find that

FOR GENERAL FAMILY USE

—THE—

"FLORENCE"

—IS—

"THE BEST."

(Signed)

J. N. ANDREWS,
THOMAS C. McHALE,
L. ELKUS.

If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco Office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.

SAMUEL HILL,
General Agent, 111 Montgomery street, San Francisco. 17v13

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge. If in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

HOOKE'S PATENT EXCELSIOR PUMP.—This pump is already in extensive use. The advantages claimed for it are important ones. It will not only force water from a greater depth than any other pump in use, but it is less liable to choke. It is simple in its construction, having no intricate pieces liable to misplacement by ordinary workmen in setting it up; and no portion is so delicate as to be liable to breakage. It is, in short, perfect in its construction, good for long wear, and warranted to give satisfaction in every instance.

Among those who have adopted it, may be named the following: C. J. Newcomb, Calaveras County; Palmer & Co., quartz miners, Nevada; The Vulture Mining Company, Arizona; the Gas Works at Nevada, and the three sugar refineries in San Francisco. They are also in use at Little York, Grass Valley, Austin, Reese River, and several in Kern County.

The proprietors, Messrs. Cushing & Co., are now having them manufactured at the Union Foundry, Messrs. Booth & Co.'s establishment. All sizes, suited for different purposes, can there be found. The hand pump, as we can testify from experience, works with remarkable ease. One of this kind was exhibited at the Mechanics' Fair one year since.

HUNT'S WINDMILL FACTORY.—During the past week we paid a visit to Hunt's Windmill Factory and Machine Shop, No. 28 Second street. Mr. Hunt is well known to our citizens as one of the pioneer mechanics in San Francisco, and we are pleased to observe the indications of thrift and progress about his establishment. Probably no mechanic on the Pacific coast has brought out more inventions than Mr. Hunt. He manufactures at his establishment windmills, horse powers, pumps, pumping frames with gearing and balance wheels, saw frames, and several other useful machines, of his own invention. Give him a call and examine his work.

ADJUSTABLE STILTS.—Mr. A. I. Frick, of this city, has devised a step which may be readily adjusted to the sticks ordinarily used by boys for stilts, but which will be found much more convenient and safe than the hanging contrivances usually employed. They are made of cast iron, are light and neat, and can readily be adjusted to any distance from the ground, high or low, as they may be wanted for the moment. A pair of these will make a very pretty present for Young America, and they should not be overlooked among the holiday novelties. They may be found at the Metropolitan Book Store, corner of Market and Montgomery streets. Patent applied for through our agency.

HENDY'S NEW CONCENTRATOR, mentioned in last week's issue, can be seen at the Union Foundry, on First street, where it is manufactured. It will soon be illustrated in our columns.

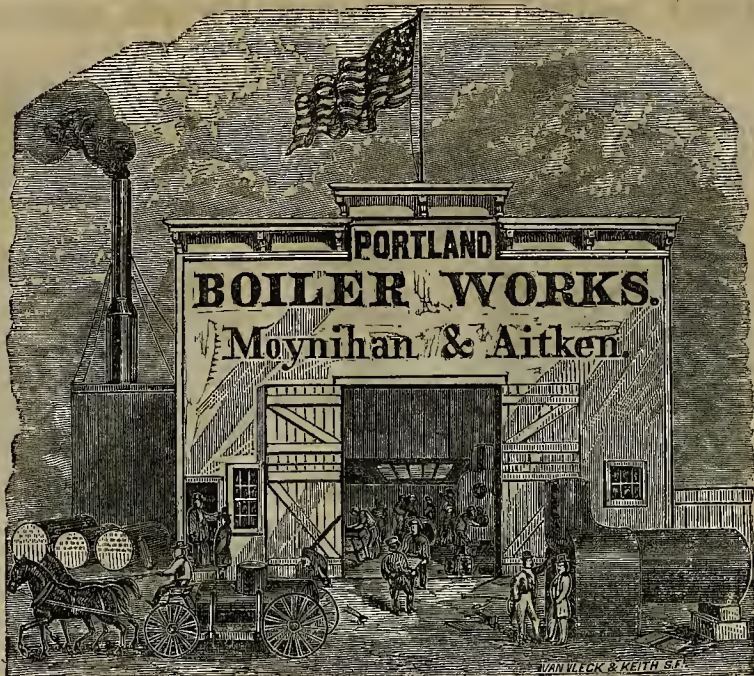
"W. F. S."—A letter from "W. F. S.," of San Jose, on "Electrical Phenomena," is in type, but has unavoidably laid over until next week.

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the **MINING AND SCIENTIFIC PRESS**, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

PACIFIC HYGIENIC HOME WATER CURE, at Fountain Farm, near Oakland. Chartered and conducted according to the teachings of the Hydropathic College of New York, by the Pacific Hygienic Home Association (Incorporated), B. J. SMITH, M. D., Consulting Physician; R. S. MACBETH, M. D., Attending Physician; W. G. W. HANFORD, Manager; H. ANDREWS, Business Agent. Office, Baths and Lecture Hall, No. 627 Sacramento street, between Montgomery and Kearny streets. Free Lectures every Tuesday and Friday evenings. 16v13-1f



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MOYNIHAN & AITKEN.

TO MINERS, MILLWRIGHTS AND FARMERS.

We beg leave to call your especial attention to the

EXCELSIOR

Double-Acting Suction and Force Pump.

Hooker's Patent, Aug. 15, 1865.

This Double-Acting Suction and Force Pump, the best in use, is more simply constructed, more durable, and has larger and more direct ports for receiving and discharging water, and is warranted to furnish more water, than any other Pump of equal caliber. It has Puppet Valves, faced with vulcanized rubber, which cannot be wrongly placed in the Pump. The valves can be changed without disconnecting air-chamber, suction or discharge pipes.

In case of necessity, the Pump can be run at any high rate of speed, and will furnish water proportionately. The Excelsior Pump is equally adapted to use for surface and deep wells or shafts. It can be run by windmill or horse power for irrigating purposes; also by hand or steam power on steamers and ships. For domestic use, no better Pump can be found.

Fig. 3.

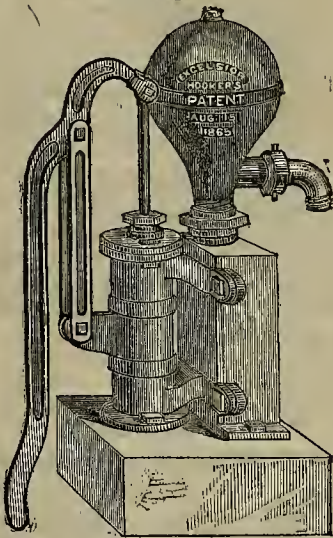


Fig. 3 represents a Hand Pump, which works very easy, and with even power. Fig. 4 is a 6-inch Mining Pump, showing adjustable bonnet of the valve chest.

For Circulars, or further particulars, inquire of or address J. W. BRITTON & CO., Agents, 120 Front street, San Francisco; H. J. BOOTH & CO., Union Iron Works, First street, or 1am4S

CUSHING & CO., Prop'rs, San Francisco.

To Owners of Mineral Cabinets.

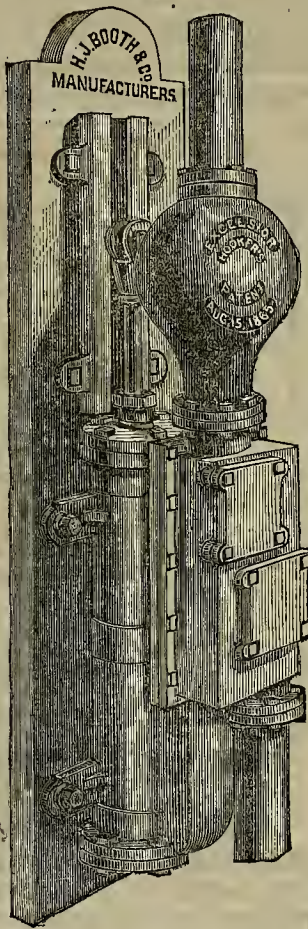
A miner in Nevada has a lot of choice Crystals, which he desires to dispose of at reasonable rates to parties who may desire to complete their display of minerals. Address the office of the "Mining and Scientific Press." 19v13-1f

Job Printing Press for Sale--\$250.

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CHANGING THE ADDRESS.—No change is made for changing the address of this paper. To give all necessary information, write us plainly as follows: "Change address of the Mining and Scientific Press from Mr. ... at ... P. O. ... County, ... State, to Mr. ... at ... P. O. ... County, ... State. ... 186-." 1am4S

Fig. 4.



WM. HAGEMANN,

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TATIAN AND HARB BILLS AND GONGS,

FIRE ENGINES, FORCE AND LIFT PUMPS,

Steam, Liquor, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles, &c.

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For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Conpling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

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Metallurgy.

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—FOR—

Mining and Prospecting Companies

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23- Orders from the interior faithfully attended to.

Endorsement by the Miners' State Convention

The following resolution was adopted by the California Miners' State Convention, held at Sacramento, Jan. 17th, 1866:

Resolved, That we regard a mining paper or journal of great importance to the mining interest of California, and we recommend the MINING AND SCIENTIFIC PRESS, of San Francisco, to the consideration and support of the miners of the Pacific coast.

Engineering and Scientific Press.

Terms: One Year, \$5; Six Months, \$3.

Single Copies, Fifteen Cents.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

DEWEY & CO., PUBLISHERS,
And Patent Solicitors.

SAN FRANCISCO, SATURDAY, DECEMBER 1, 1866.

VOLUME XIII.
Number 22.

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SCIENTIFIC INVESTIGATIONS.

Scents and effluvia have long formed a favorite illustration of the divisibility of matter. No chemist ever weighed the perfume of a rose; yet that perfume not only has weight, but also exercises, by its presence, a most powerful influence upon radiant heat. The perfume of otto of roses intercepts thirty-six times as much solar heat as the same quantity of atmospheric air. Philosophers have devised contrivances, by which they are enabled to measure, with the utmost exactness, the relative percentage of heat absorbed by different gases and odors. The small quantity of volatile matter which a person may inhale, at one breath, from a vial of hartshorn, is thus proved to be capable of absorbing more radiant heat than a large roomful of atmospheric air.

Taking atmospheric air for unity, otto of roses, as we have already mentioned, will absorb 36; lemon, 65; thyme, 74; camomile, 87; cassia, 109; spikenard, 355, and anise-seed, 372. Though it would be idle to speculate upon the absolute weight of the quantity of the substances named which may effect the above results, still

"The sweet South wind,
That breathes upon a bank of violets,
Stealing and giving odor."

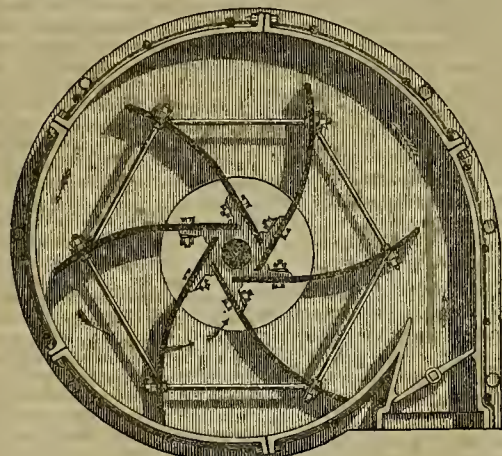
owes its sweetness to a matter which, though extremely attenuated, is nevertheless far more potent in intercepting the rays of the noonday sun, than the entire atmosphere between it and the sky.

Such delicate experiments as have determined this fact would seem at first almost beyond the reach of human contrivance; but the cunning art of man, aided by his high order of intelligence, is searching out, in these latter days, facts but little dreamed of in the philosophy of a hundred years ago.

The sublime inquiries in the physical sciences, which have recently occupied a large portion of the attention of European philosophers, and which have led to the full demonstration of the new law of the "conservation of forces"—a law which is now acknowledged as the underlying principle of all philosophy—awakens thoughts and kindles emotions in the thinking mind, which appear to reach out toward the ultimate, until we can almost seem to see the dynamic chain which binds into unity the realms of matter and mind, throughout the entire measureless fields of time and space. And yet there are minds which see in all these realities but the dim dawn of discovery in the mysterious regions of science. If, indeed, these discoveries are but "pebbles" upon the shores of the great ocean of truth, which they are thought to be, how stupendous must be the mysteries still bidden in the bosom of the unexplored, and how far transcending all stretch of human thought must be that unknown, but infinite Great First Cause of all things, to which the highest human intellect turns in solemn, humble and mysterious worship!

CENTRAL DISCHARGE WATER WHEEL.

We give annexed an illustration of a very cheap and simple water wheel of the turbine variety. From the peculiarity of its action, it is known as the "Center Discharge Water Wheel." It can be economically applied wherever an abundance of water can be obtained with any considerable head. For such localities, it is probably one of the most simple and most effective wheels, for its cost, which can be obtained. The wheel is manufactured and sold at the Miners' Foundry, in this city, where tables can be found, showing the working velocity and amount of power derivable from any quantity of water under given conditions of height. The peculiar action of the wheel will be at once recognized on examining,



CENTRAL DISCHARGE WATER WHEEL.

the illustration. The wheel, it will be recollected works in an enclosed case. The arms, their form and direction of movement, together with the manner and place of the exit and entrance of the water, will be readily ascertained by consulting the illustration and noticing the direction of the arrows.

LINCOLN SCHOOL EXHIBITION.—The time of holding the Lincoln school exhibition has been changed, and it will take place on Thursday and Friday evenings, Dec. 6th and 7th, instead of on the 13th and 14th, as at first proposed. The change is made to accommodate others who propose giving exhibitions. This exhibition is to be given for the purpose of raising a permanent "Medal Fund" for the Lincoln school, the interest of which is to be expended in procuring medals for those pupils who distinguish themselves in deportment and scholarship. Everybody ought to encourage the object, as well as the boys. The exhibition promises to be one of the best ever held in the city. It will be held at Lincoln Hall.

THE CUTTING BROMIDE PATENT.—The San Francisco Photographic Association, has decided to purchase the right to the use of this patent in this city, of Messrs. Bradley & Rolofson. The price to be paid is \$2,000. A committee had previously been appointed to examine the validity of the title. The committee ascertained that it was generally recognized in the Atlantic States.

THE ALTA AND ITS ELECTRO-QUAKE THEORY.

The *Alta California* has attempted to explain away our remarks respecting the electro-earthquake theory in a manner which only serves to show the utter unacquaintance of the writer respecting matters on which he attempts and thinks to enlighten his readers, otherwise he would not have referred to the lamp-post as a case in point; although, if necessary, the point we named could be established by that proposed crucial reference; and in order to do so it is not necessary that the columnar structure need be twisted. It would only require to be overthrown from its base. The entire article is one which displays such a thorough unacquaintance with the matters in which he attempts to be so facetious, that it is not worth entering into serious criticism. To do so

THE IRON AND STEEL ASSOCIATION.

THE IRON INTEREST IN CONGRESS.

Important results are already perceptible from the influence of the "American Iron and Steel Association." This association is designed to promote intercourse between the iron manufacturers throughout the country, on all subjects of common interest, embracing philosophical, mechanical and commercial, as well as economical. It is clearly evident that its influence is destined to become powerful in promoting sound and intelligent legislation in Congress. In accordance with an invitation from the association, Secretary McCulloch, Commissioner Wells, Senator Fessenden, and several other prominent men from Washington, have recently spent a week in visiting the leading iron regions of Pennsylvania. Great hopes are entertained that this visit will conduce to wise Congressional legislation in behalf of the iron interests of the country, than which no branch of industry is more worthy of being promoted.

Another evidence of promise in this direction is involved in the circumstance attending the recent election of D. J. Morrell, Esq., of the Cambria Iron Works, Pennsylvania, for the Seventeenth Congressional District of that State. This election is not only flattering to Mr. Morrell personally, but also affords evidence that the interest felt in his behalf is above the ordinary influence of mere political issues. Although the majority in the State of Pennsylvania was not as large as it was in 1864, yet Mr. Morrell's majority was nearly three times that of his predecessor, who was elected by 509 majority, while Mr. Morrell received 1,319.

No man in America has done more within the past two or three years to build up the iron interest of this country than has Mr. Morrell; and we can well understand how grateful workingmen and intelligent voters can, for the moment, drop all party issues and unite in placing so able and useful a man in a position to render his great influence still more widely felt. His efforts in Congress cannot fail to exert a most marked influence in the legislative action of that body in reference to the great industrial interest which he more particularly represents.

Mr. Morrell is fully imbued with the importance of placing the iron interest of the country entirely independent of foreign markets, for the staple of our manufactures as well as for the manufacturers themselves; he also understands that the true way of cheapening the cost of iron is to encourage its home production, and thus promote home competition and home industry. The American industrial system is one of harmonious interest—such as, what affects one affects all. From the most limited of our agricultural proprietors up to our most extensive manufacturer, all have a common interest in the general promotion of American productions.

It is said that M. Columbo, the only living descendant of Christopher Columbus, intends visiting the United States during the coming summer.

THE SAN JOAQUIN CANAL COMPANY, with a capital stock of \$1,000,000, has been incorporated. The object of this company is to construct canals in San Joaquin county, for irrigation and for manufacturing purposes. They will commence work early in the coming spring. A large extent of country which is at present unproductive, in Fresno, Merced, Stanislaus and San Joaquin counties, will, by this enterprise, be reclaimed. The canal will be thirty feet in width, and five feet in depth; and will be used for navigation as well as irrigation. By it the Tulare valley products will be brought to the threshold of our San Francisco markets.

COLORS FIXED ON MARBLE.—It is said that Dr. A. Hill, of Norwalk, Conn., has recently invented a simple process by which oil painting can be executed on marble, with the colors as permanently fixed as in stained glass.

The Paid Fire Department goes into operation on Monday next, December 3d.

Communications.

In this DEPARTMENT we invite the FREE discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

From Calaveras County.

BY A LADY CORRESPONDENT.

EDITORS MINING AND SCIENTIFIC PRESS:—Your "Lady Correspondent" has crammed her portfolio with statistics, and filled her books with notes (not greenbacks, you know) and feel impelled to rush into another column of print. I still retain the ability to tell what I think, and I feel that all those grand pine trees, stiff and straight, and strong as truth itself, and particularly the one that shades me, with long limbs stretched out for arms, at the terminus of which hang heavy pine cones for hands, have pronounced a benediction on my effort, and dropped a cone of some pound weight at my feet for an "Amen." The grim old ledge on which I sit, with a high backbone above the ground, bleached by "wind and weather," says something about "hidden worth" and gives a maxim, "no excellence without labor." Judging by its thick granite walls, and its method of hiding its gold in its sulphurets, I can but say, "I concur." While I aspire to rival the State Statistographer in hitting facts as to mines, I would gracefully yield the palm when it comes to hitting the miners. To cut so keen and sharp, that the victim don't know he is hurt till he tumbles into halves in attempting to move, is Ross Browne's pen-prerogative, he all the time looking as mild as the very concentrated tailings of crushed innocence!

An extensive group of veins surround West Point. The district embraces the three principal forks of the Mokelumne river. It is tableland, such as is usually interposed between the top of the foot-hills, and the foot of the Sierras. It strikes me as a most favorable mining locality. The branches of the Mokelumne afford ample water power, extensive pine forests give fuel and lumber, and the fertile soil yields good returns to the cultivator. Fine orchards, gardens and vineyards are surrounding the homes of the miners, and there is room for more of these nomadic people to "pitch their wandering tents" and be at home. The grand feature, however, of the land is the quartz. The lodes are narrow, but many of them very rich. They are mostly sulphurets, the matrix holding from one to twenty per cent. of surfurous iron pyrites. In many veins the sulphurets are considerably decomposed, and then free gold is found abundantly. In others, where decomposition has been sparing of its labor, little or no gold is to be had for the crushing, and such veins are neglected, although assays prove the ore to be rich. Mining has been conducted in rather a primitive style, the Mexican armstrs being the favorite machine. The quantity of ore is estimated by the cargo, and not by the ton. Excavations for ore rarely reach a depth of thirty feet; and when a vein ceases to yield \$10 to the cargo, (three hundred pounds), it is condemned as dug out, and usually abandoned. A better mode is now being introduced. American miners are sinking deep shafts, and American stamps are knocking the stones to flinders. Among the lodes taken hold of in the real California spirit is the Gettysburg. Mr. Newman of San Francisco, an early Gold Hill miner, is working several leys of men on the above vein, and has leased Leet's 5-stamp water wheel mill on the Middle Fork of the Mokelumne, to do the crushing. Gettysburg rock is accumulating in the ore yard, and the indications are that quantity and quality are gigantic—the mine may yet be called "Gigantic Gettysburg." Mr. Newman has a shaft sixty feet deep, and a tunnel 150 feet in length. Mr. Allen Harris, on Sandy Gulch, has a model 5-stamp mill with water power. He is kept busy with custom work. His books show, out of 400 tons, taken at random, of last years crushing, a yield of a little less than \$40 per ton. He estimates the expense of milling at \$2 per ton; counting incidental wear of machinery and interest on capital. The Woodhouse mill, a little lower down on the same gulch, a 15-stamp water power, is one of the oldest institutions here. The vein is really rich, but the ore was badly handled in those early days, and failed to enrich the owners, though the fault cannot be attributed to mill or mine. With the present improved methods, the result would be very different. I may here state that Mr. Holmes of San Francisco, is putting up a 20-stamp water power mill on the same lead where it crosses the river. The works far advanced, and will be moving in a few weeks. I must name one more mine before I close. It is on Soap Root Gulch. I was unable to add to my collection some of the finest specimens of sul-

phuret ores I have ever seen. Gold particles amid bright green and orange spots, studded large masses of rock. The lode is two feet wide, and the entire mass, I was assured, was of the above description.

The veins in the vicinity of West Point pay from the surface; quite an item, as the "honest miner" will at once perceive. It produces one had result, however: the mere scooping out of rich spots without making permanent improvements of any kind. I saw several veins thus abandoned, without the least effort having been made to develop beyond the "pocket" that chanced to attract on the outcroppings.

West Point, Nov. 10, 1866.

PROCESS OF ROASTING ORES, ETC.

Translated from the German of P. Plattner, for the Mining and Gas-Light Journal, New York.

BY J. H. TIEMANN, M. E.

NUMBER THREE.

DIFFICULTIES ENCOUNTERED IN THE FURNACE.

On the other hand, if the height of the roasting chamber, or the size of the chimney, be not in conformity with the other dimensions of the furnace, the roasting, as far as the required object is concerned, is very difficult, or even altogether impossible. If, for instance, the arch is too high above the hearth, and the flue too large in comparison with the roasting surface, and the openings for the admission of the air are too wide, the admission of air, which always enters with a certain velocity, will be too great; it not only causes a cooling of the flame and of the ore near the working door, but helps also to dissipate the warmth already contained in the chamber; so that when the proper temperature is required, in the absence of a damper in the chimney, more fuel is necessary, and even necessitates, perhaps, the enlargement of the roasting surface. If, on the contrary, the arch is too low, that is, too near the hearth, or the flue too small, the flame comes in too close contact with the ore, consequently the atmospheric air, when admitted in the same quantities as in a furnace where the arch is higher, gives off too little oxygen for the oxydation of the sulphur and arsenic metals in the ore. Thus, not only is the roasting retarded, but the result of the roasting is not such as desired. But when all the parts of the furnace bear a proper proportion to one another, and if, according to the nature of the fuel, the size of the hearth and the openings for the admission of air bear a proper proportion to the size of the roasting surface, the roasting may be carried on with the least possible waste of fuel.

In all these cases, however, the gases which pass from the roasting chamber into the atmosphere, consist chiefly of undecomposed atmospheric air, because the circumstances are not such as make it possible to deprive the air which enters the chamber of its oxygen in greater quantities than actually happens; for only that portion of it gives up its oxygen which comes in immediate contact with such bodies, which in a glowing state, or heated to a certain grade, are inclined to absorb oxygen. The action is the same here as in the burning of the combustible gases when a common candle is lighted, where the air flows towards it from all sides, and yet only that portion gives up its oxygen which comes in immediate contact with the hydrogen and carbon of the heated ascending gases.

In the place of a solid flame-giving fuel, a gaseous fuel is used—for instance, a mixture of carbonic oxyd with carburated hydrogen (including the nitrous oxyd of the air). When the air, at a proper temperature and in proper proportions, comes together in the roasting chamber with the gases from the generator, a less extensive flame than in common roasting is formed, because more atmospheric air has been already absorbed for the combustion of the carbon. So that consequently the gaseous combustible products which enter with the visible flames are present, not only in larger quantities, but are also hotter.

Less air being therefore required to pass through the openings into the roasting chamber, to obtain the same objects in a furnace with ordinary fuel, the arch may be somewhat lower.

In regard to the amount of oxygen extracted from the atmospheric air which enters the furnace, the same general rules are applicable as have been given for furnaces heated with solid flammable fuel.

Roasting furnaces which are constructed to economize fuel, whether heated by solid or gaseous fuel, are applicable to roastings where perceptible loss of metal by volatilization is not to be feared, or where the condensable volatile substances, notwithstanding the heated gaseous combustible products and a considerable draught in the furnace, may be collected in special condensers. In roasting, however, where at certain periods it is necessary to change the temperature, such furnaces are best adapted which are constructed for solid flammable fuel.

Besides the condition, that during the roasting

process of sulphur and arsenic metals in a roasting furnace, sufficient air must be admitted for oxydation, it is also necessary that the position of each individual grain of the ore or product should be changed during the oxydizing process. The chemical composition of the substance must be taken into account, and how it comports itself upon being heated in combination with atmospheric air, and whether it is better that the heat should be applied directly in an ordinary roasting furnace by the ignited gaseous combustible products, or whether it should be heated from the hearth of a muffle furnace. It is well known that many ores or mill products containing easily fusible sulphur metals, upon being heated and atmospheric air admitted, sinter easily when the individual particles are not disturbed in their positions, as the sulphurets of antimony, lead, copper, etc., while others are less inclined so to do, as the sulphurets of iron and zinc. When the heat necessary for roasting is produced directly by the heated combustible products of the fuel, the temperature is easily regulated and kept at the desired point for the proper roasting of the substance in hand. When the ore or mill product to be roasted is inclined to sinter, it is stirred by means of the roasting rake, the hot surface ore mixed with the under portions, in this way gradually disseminating the heat through the whole mixture, the part lying nearest the fire, by means of a roasting shovel, is brought to the opposite side, and, vice-versa, that nearest the flue brought next the fire, in this manner keeping the whole body of the ore at such a temperature as will best obtain the desired result, and which is best applicable to the ore in hand.

[To be Continued.]

Nobel's Patent Blasting Oil---Nitro Glycerine.

We have received the following communication, referred to in our last week's issue. It seems quite probable that this agent, so powerful both for good and evil, the very name of which was horrifying to us six months ago, will yet come into general use. We learn that it has been adopted for blasting purposes in the Hoosac tunnel in Western Massachusetts. It is of course unnecessary for us to urge the necessity of implicit obedience to the instructions of the agents when handling it.

EDITORS PRESS:—As it may be interesting to many of your readers, and especially to those who are engaged in blasting operations in the interior, either in mines or otherwise, to know what has been done with the Nobel's blasting oil (glonoin) consigned to us, and whether, since our successful experiments here and on the Central Pacific Railroad, the continuance of which was cut off by the explosion in this city, new trials and experiments have been made—to the persons so interested we would say: Although we have received since the explosion here many orders for the oil, more than we could have filled, yet, considering the aversion and fear many people, particularly in this city, have for the same, we have refused, until lately, to fill a single order. Of the three cases sent up by the Railroad Company to their place of working, only two were used; the third one remaining exposed to the greatest heat and change of temperature, near Dutch Flat, at Camp No. 22, until a short time since, when some persons engaged in and owning a mining claim at Michigan Bluff, Placer county, thought of us this remaining case and took it to their mine. These men, on commencing to use the nitro-glycerine, were entirely unacquainted with it, and made their first experiments according to instructions furnished them by us. They have made, up to this time, more than thirty blasts, large and small, most of them from the beginning resulting in perfect success. They write us that the effect of the oil is at least ten times greater than that of powder would be.

Mr. C. S. Swenson, who is one of the owners of this mine, has contracted for eleven cases more of Nobel's nitro-glycerine, and expresses himself so much in favor of blasting oil in every respect that he intends to use this article henceforth exclusively. He states, further, that the superiority of glonoin is especially remarkable in the kind of soil he is blasting in at present, which is a very tough pipe-clay, in which powder has but very little effect, and that the great saving by using oil, besides its superior power, is in the fewer and smaller boreholes necessary for a much greater result. Another great point in its favor is, the effect of a blast commencing from the bottom of the borehole. Mr. Swenson reiterates the opinion of all others who have used this oil, that the handling of it is not more dangerous than that of powder, and the charging of a borehole occupies but a very few minutes, as no hard tamping is required. Mr. Swenson having tried both water and loose sand tamping, recommends the latter.

Congress, at its last session, passed a law in relation to the packing of nitro-glycerine for transportation to and in the United States. In order to comply with its requirements in every particular before filling any of the numerous orders which we have for the oil, and this lot being packed in tins of twenty-seven and one-half pounds, surrounded by saw-dust, with the assistance of Mr. C. S. Swenson and two other

men, we opened all the cases, took out the tins, re-packed them in new, strong boxes, and filled the space between the tin and box with moistened plaster of Paris, surrounding the whole tin by a hard substance, which makes future transportation entirely safe. Supposing that the prejudice against and fear of this blasting oil, which the explosions here and at Aspinwall created, would yet entail difficulties in forwarding our lot to Sacramento, we concluded to take advantage of the opportunity which was offered us by the sale of eleven cases to Mr. Swenson, who had a boat engaged for Sacramento to carry the oil to that place, and to facilitate the delivery of any desired quantity to our customers, by sending the balance also to Mr. Swenson's place at Michigan Bluff.

The maxim that the human mind can control whatever it can invent, has never proved so true as in the invaluable invention for making the nitro-glycerine in explosive, and thus harmless for transportation, by adding to it a certain quantity of wood naphtha (methyl alcohol). We have been lately informed by the manufacturers in Hamburg that now only in explosive nitro-glycerine is exported to the different countries, or forwarded to their customers. To make the same explosive again, and to give the nitro-glycerine all its former power, any desired quantity of pure water added to the in explosive material will mix with the wood naphtha, and these two substances can then be poured off, when the pure nitro-glycerine, which is the heaviest part, remains at the bottom; thus, if a miner has a quantity of in explosive nitro-glycerine he pours into another vessel in weight somewhat more than is needed for the blast and extracts the wood naphtha, as described, which leaves him the pure oil ready for use, or the quantity required for the day is prepared at once.

The process of separation of the wood naphtha from the oil can be plainly observed if a white glass tumbler or decanter is used. Having a shipment of the wood naphtha on the way, we shell, on its arrival, publicly demonstrate the fact that nitro-glycerine can be made in explosive or explosive, at will, as before described. For this purpose we have retained one case of oil here.

When the excitement here, in consequence of the explosion, was at its highest, we were ordered to remove the oil from its then place of storage, near the powder-house of Messrs. Trendwell & Co., but we were for a long time unable to find any place where we were allowed to store it, and we kept it meantime in a little fishing-boat owned by Chinamen. Neither the city nor Federal authorities were willing to assist us. At last, by the kindness of the owners of the Manganesc Mine, on Red Rock Island, we were permitted to place the oil there, in an excavation in the rock, with the understanding that we were to make a blast for the owner of the mine. But even this secluded place was not proof against unwarrantable curiosity, as on one day inspecting the same we found that one case was entirely wanting, and that another tin had been violently struck into and opened by some blunt instrument, notwithstanding the fact that the nature of the article there stored was written on a board placed in front of the closed excavation.

To partly disabuse the public mind of the danger of nitro-glycerine, we would state, in conclusion, that when we were prepared to make the promised blast on the island, we found that the foreman had been so impatient to see the effect of an oil blast that he did not wait for us to acquaint him with the proper mode of blasting, but put in a blast in the following way himself: Having made a borehole, he took two paper cartridges as they are used in tunnels where the rock is fissure, filled them with oil, and placed them side by side in the borehole; on top of these he put down a third cartridge, charged with powder, and filled up the hole. On lighting the powder cartridge this exploded, but without igniting or exploding, as he supposed it would, the cartridges filled with oil; thus showing conclusively that an explosion or heavy concussion must be effected in the oil to explode it, and that even a heavy concussion outside or near to it will, in some cases, do no harm. A few more blasts made afterwards, under the direction of Mr. Swenson, in the proper manner, gave splendid results, and surprised the men by its superior power. Mr. Battles, the contractor for the manganese, as well as his foreman, acknowledged, after these few trials, all that is claimed for the new blasting agent, its immense power and consequent great saving of money, as also its entire safety when properly handled. As a proof of this assertion we have been requested to order several cases back from the interior, where the same have arrived, to be henceforth used by them. These gentlemen, as all others in this country who once have used the nitro-glycerine, prefer it vastly to powder, for reasons too numerous to be here mentioned, but enumerated in our pamphlets.

BANDMANN, NIELSEN & Co.

San Francisco, November 23d, 1866.

Mechanical.

Short and Long Screw-Drivers.

The further from the source of power, the more reduced is the effect which is exemplified in any system of machinery, or any mechanical action, which depends on a single motive power, turning an extended spindle or shaft, the motion of which keeps remote mechanism in action. A very simple exemplification of this fact may be found in the operation of the ordinary screw-driver, with the hand as the motive power. The carpenter often imagines, that with equal force of hand and both instruments identical in their relative proportions, a long screw-driver is more powerful than a short one; because, in his practice he finds that the longer starts a rusty screw that he cannot move with the shorter one. The fact is, power is lost by the long one, or the longer is the lesser power. Usually, however, in a long screw-driver the leverage is greater than in a small one, from a relative difference in length between the long axis of the blades and handles of the two instruments; in such cases the difference of leverage may overcome the reduction of effect by reason of the increase of length. In driving a screw all the force is in the direction of the required effect—forward. In drawing a screw a portion of the force (that due to the pressure) is contrary to the required effect. Lessening the pressure upon the screw, by increasing the long diameter of the blade, is what is gained by the longer over the shorter screw-drivers, when both instruments are identical in their relative proportions. The principle of the loss of power, by the removal of the effect from the source of that power, is universal in its application, and is due to the loss of momentum in the transference of that power from atom to atom along the line of transference. Power may be thus gradually exhausted or taken up; a notable instance of which is observable in the earthquake shock, which gradually "dies out," so to speak, as it recedes in every direction from the center of shock. This loss of power is moreover greater or less in proportion to the density and uniformity of the arrangement of atoms along the line of disturbance.

The Acid Test of Iron.

Although there can be no doubt but that the only way of obtaining accurate information respecting the strength of any particular kind of iron or steel is to subject it to directly applied strain, yet there are many circumstances under which such a test cannot be conveniently carried out, and where any test which does not require special machinery would be extremely useful. One rough test of this kind, which is frequently used, is that of breaking a sample of the material and judging of its quality by the fracture; and another, which is not so generally known or employed, is the "acid test," which is carried out by subjecting samples to the action of dilute citric or sulphuric acid, and noticing the result. This acid is particularly applicable when it is desired to ascertain the capabilities of the material for resisting wear, as, for instance, in the case of railway tires. Thin slices are cut from the tires to be tested, and the surfaces polished, and these samples are then placed in dilute citric acid for about twelve or fourteen hours. At the end of that time it is found that the structural formation of the tires is very clearly developed, the manner in which the piles were built up being plainly shown in the case of the iron tire, while in the case of those of steel the surface presents a more or less honey-combed appearance, according to the fineness of the grain of the material. Samples of Krupp's steel tires sometimes exhibit only a frosted appearance on the surface after a whole night's submersion in the dilute acid, whilst some slices of iron tires 3-16 inch thick, submitted to precisely the same test, were eaten completely through in some places. Speaking generally, it may be said that the power of resisting wear varies very much in the same proportion as the power of resisting the action of the acid, and the latter also shows clearly whether the material is of the same texture throughout, and whether it may therefore be expected to wear equally. A great number of samples of acid tests, have been subsequently photographed, with the aid of the microscope. These tests give most marked characteristics; as for instance: In meteoric iron the crystalline nature of the material is clearly exhibited, and in the gray pig, crystals of graphic carbon are shown shooting

through the mottled surface of the metal, while in refined cast iron long lines of hard parts are to be seen arranged in layers. Slightly-hammered bloom shows a confused mixture of iron and slag; Bowling bar-iron, a compact texture, and Swedish iron a still closer grain, more resembling steel. The various steels also present entirely different appearances; the difference between blister and cast-steel being strongly marked. Altogether, it appears that the acid test is an extremely useful one, particularly when assisted by microscopic examination; while the system of taking magnified photographs, affords an excellent means of registering the results obtained.

Oil vs. Coal for Steam-Boilers.

Some recent experiments in England in the use of oil instead of coal for steamers, are summed up as follows: This invention in its present form is not likely to supersede the use of coal for land engines, but appears to be one of great value for sea-going steamers. Thus, in the case of the *Persia*, one of the Cunard line of steamers, the following calculations will show what the result of the successful use of oils would be to its owners. It is calculated, from what is now being done, that eight gallons of oil per hour will be sufficient for each furnace, and that the steamer's fourteen furnaces, in a voyage of twelve days, will consume 32,256 gallons, weighing 169 tons, and costing £1,690. The *Persia* takes for her voyage and 1,500 tons of coal, costing about £1,500; thus showing that the cost of oil is £190 greater than the cost of coal. But against that there is a saving of 1,331 tons, which at £3 per ton for freight is a gain of £3,993; deducting from which the £190, the actual gain from one voyage is shown to be £3,803, to which sum must be added the savings of stokers' wages, as the apparatus is self-acting when once fairly in operation. The principle of the invention seems to be also applicable to smelting, glass making, and other similar purposes, where intense heat is required, which must be under perfect control.

The invention by which this oil is utilized consists in placing within the fire-box of an ordinary marine boiler a generator, into which crude shale oil, costing about sixpence per gallon, is admitted, in combination with a jet of steam; the two producing hydro-carbon gas, which produces steam rapidly, with scarcely any smoke and no smell. This method of using petroleum may be thus briefly described: Knowing that at a dull red, petroleum will be converted into gas, there is introduced into the ordinary furnace space an apparatus consisting of a gas receiver or distributor, below which are placed two pipes, connected with the receiver at both ends. Into three retorts, or generators, the oil is introduced through a feed pipe, the generators, in the first instance, being brought to the required heat by means of a small coal fire. The oil is turned on, and immediately is coming in contact with the heated iron generators is converted into gas, and rushes up into the receiver, whence it issues through small holes, and is burned as ordinary gas. All being in working order, the coal fire is raked out and another receiver with burners is placed on the empty grade, and being connected by a pipe with the upper receiver, a portion of the gas is thus conducted below the generators and burned under them to keep them, also, at the requisite heat.

ENAMELED IRON.—Some very elaborate works of art have recently been turned out from the Enamelled Iron Works of Mr. Baugh, of Birmingham, England. The work of this establishment is attracting a very considerable amount of attention, on account of the degree of perfection and general applicability which Mr. B. has reached in this class of manufacture. Not content with the application of enameling to signs and advertising boards of every description, he has applied his patent to the highest department of art, with a result which is most satisfactory. Mr. Baugh is now executing an order for the lining of the walls of some portions of the Kensington Museum with large sheets of iron enamelled with designs by Dr. Dresser. This fact is sufficient to mark the importance and value of the work now turned out. Attention is also being given to the imitation of the old enamels. The practice of enameling on copper was one of great difficulty, owing to the unequal contraction and expansion of the copper and enamel coating; in consequence of this the works produced on copper rarely exceeded the size adapted for trinkets. By the process now practiced by Mr. Baugh, an enamel can be produced almost to any size that a sheet of iron can be rolled. This enamel contracts and expands in the same proportion as the iron on which it is laid, and is so flexible that if the iron is bent in any direction no crack appears. In the show-rooms may be seen the wonderful variety of purposes to which the enamel may be put. We have no information with regard to the nature or cost of this new process.

Scientific Miscellany.

A New Theory of the Supposed Change of the Earth's Axis of Rotation.

A very interesting discussion in relation to the cosmical causes of changes in the earth's temperature, and the submergence of the northern hemisphere during the glacial period, and the cause of the supposed change in the earth's axis of rotation, took place at a recent meeting of the Royal Geological Society of London. The most interesting and novel portion of this discussion was in relation to the supposed change of the earth's axis, for which Mr. John Evans proposed the following theory, as reported in the *Londoo Quarterly Journal of Science*:

He takes the case of a sphere consisting of a mass of viscid or fluid matter, surrounded by a crust of inconsiderable thickness, and in a condition of revolution about a given axis. He then supposes the equilibrium to be disturbed by the protrusion of a portion of the crust somewhere between one of the poles of the sphere and its equator. The result would be, as Mr. Evans states, that the greater centrifugal force possessed by this protruded portion would tend to bring it towards the equator, and thus alter the axis of rotation of the external crust, which would adjust itself about the internal plastic and still spherical mass within. The rotation of the sphere and this excess of centrifugal force possessed by the protruded portion would cause the latter to describe a spiral, as it were, of gradually increasing dimensions, until at last it came into the line of the equator of the sphere, and described a circle, when the axis of rotation would again become fixed until some fresh cause of disturbance produced a repetition of the process. In the same manner Mr. Evans supposes the upheaval of large mountain-masses to have operated on the earth's axis of rotation; the only distinction he draws being that, from the spheroidicity of its figure, there would be more difficulty in the crust adjusting itself over the fluid nucleus.

This theory looks very plausible, but if we inquire a little further into the case of the supposed sphere, we shall get an indication of the kind of difficulty it fails to meet when applied to the earth. Imagine a second mass to be protruded after the first shall have arrived at the equator. Before we had to deal with a sphere having no tendency to revolve on one particular axis more than on another; but now there is resistance to be overcome—a resistance intensified by the rotatory motion of the sphere. So, in the case of the oblate spheroidal earth, for a mountain mass to affect the axis of rotation it must possess a centrifugal force sufficient to overcome the resistance presented by that of the greater protuberance of the earth at the equator, that protuberance being equal to a belt six and one-half miles thick at the equator.

THE ORIGIN OF CARBURETS AND COMBUSTIBLE MATERIAL.—A NEW THEORY.—Although those combustible materials which obviously result from the transformation of organic matter admit of ready explanation, there are others which are not so produced, as the carburets observed in the products of volcanic eruptions, and such as have been detected by M. Daabree in meteorites. These require some other explanation. M. Berthelot, of Paris, who has been making some scientific researches into the nature and composition of hydro-carbons, has recently made the important discovery that at high temperatures various hydro-carbons will combine with each other, and with hydrogen to form higher carbides of hydrogen. This discovery has suggested to him a new theory of the origin of petroleum. Daabree has speculated that the alkaline metals may exist in the free state in the center of the earth. Carbolic acid, M. Berthelot states, is everywhere infiltrated in the crust of the earth, and may come in contact with the alkaline metals at very high temperatures. In this way acetylides would be formed. The same acetylides, he states, would also be formed by the contact of alkaline metals with earthy carbones below even at a dull red heat. By the action of steam the alkaline acetylides so produced would set free acetylene, and this body being unable to exist under the conditions in which it must be placed, we obtain instead the products of its condensation—bodies allied to petroleum and bitumen. This view of the formation of the natural carbides of hydrogen, by purely mineral reactions, will no doubt

attract much attention from chemical geologists. While speaking of the carbides of hydrogen, we must not omit to mention the discovery by Mr. Schorlenmer of a new series in that still unexplored mine of discovery, coal-tar. These lodes are still under investigation, and will probably be referred to on another occasion.

Phosphorus.

Some remarkable results of the exposure of phosphorus to heat have been communicated by M. Hittorf to the *Annalen der Physik und Chemie*. Schroetter states that red phosphorus returns to the state of ordinary phosphorus at 260° C., but M. Hittorf finds that this change does not take place under a temperature of about 447° C. At a lower temperature red phosphorus may volatilize, and its vapor acquire a high tension without ceasing to belong to the red modification. The transportation of ordinary into red phosphorus may easily be effected by heating in a closed vessel at a temperature above 300° C.

In vaporizing amorphous phosphorus it does not melt; in this it resembles its congener arsenic, which resemblance induced M. Hittorf to endeavor to crystallize this variety of phosphorus, which he believed would take rhomboidal forms like arsenic; his experiments proved him to be right.

Of the numerous attempts made by M. Hittorf, we will cite only that which was successful, as recorded in the *Londoo Quarterly Journal of Science* for July:

It consists in heating red phosphorus and lead in a closed vessel, the lead dissolved the phosphorus, and then deposited it in a crystallized state. The operation was performed in a fusible green glass tube, a quarter filled with ordinary phosphorus and the rest with lead; the tube was first cleared of air by means of a current of carbonic acid gas, then exhausted, and afterwards sealed. It was now introduced into an iron muffle, and the spaces filled with calcined magnesia, pressed round the whole of the glass tube.

After ten hours' heating, the lead was covered with brilliant flakes of metallic-looking phosphorus, the finest appearing red when held to the light.

No polyhedral form could be recognized in these crystals, but the lead retained some. These were isolated by treating with nitric acid of 1.1, which has no action on phosphorus, while it readily forms a phosphate of silver.

The crystalline powder accumulated at the bottom of the vessel was "metallic" phosphorus, which was then in the form of a mass of microscopic rhombohedra, resembling crystals of arsenic. In this state phosphorus is a conductor of electricity; at 15.5° C. its density is 2.34.

M. Hittorf classes the new modification of phosphorus in the same category with red phosphorus, and gives to the two the generic name of metallic phosphorus, which he subdivides into metallic crystallized, and metallic amorphous. Commercial amorphous phosphorus is often in the crystalline state.

A CURIOUS FACT in relation to the storage of solar heat for future use has been communicated by M. Jeannel to the French Academy of Sciences. Fused acetate of soda, allowed to cool in the open air, crystallizes in prismatic needles at +58°; allowed to cool, however, in a limited amount of moist air, it does not crystallize even at zero, but becomes a soft, translucent mass. If, after having been so cooled, it is exposed freely to dry air, and touched with a dry solid body, it suddenly assumes the ordinary crystalline form of prismatic needles, and rises to the crystallizing point +58°, or near it. M. Jeannel remarks that this experiment shows how solar heat may be stored up and made to appear again at will. It is possible, he says, in our climate, to raise acetate of soda under bell-glasses or glass frames to +59°. The acetate so exposed and cooled, sheltered from the air, does not crystallize, and is always ready to give out the heat again on being touched with a dry solid body.

INDIUM.—A new source of the metal indium has been found by Dr. Kachler in the zinc blende of Schoefeld, near Schloggenwald, in which mineral it is associated with tin and other metals in such proportion that some grains of it can be separated. The blende is roasted, dissolved in sulphuric acid, and the solution treated with metallic zinc, the indium is then precipitated with the other metals, from which it can be ultimately separated.

From the Stock Circular of Associated Brokers of the S. F. Stock & Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, December 1st, 1866.

The Money Market remains easy, and the demand for local business purposes falls considerably short of the supply. We may safely remark a general increase of deposits in Savings Banks as well as in the other banking institutions of our city. Accommodations, on good first-class business paper, are readily obtained at $1\frac{1}{4}$ to $1\frac{1}{2}$ per cent. per month in Bank, and mortgage loans are freely made by the Savings Banks at $1\frac{1}{4}$ per cent. per month.

Legal Tender Notes have been slow of sale during the past week, owing, no doubt, to the decreased demand for taxes and other purposes. About \$10,000 sold in the Board within a range of $72\frac{1}{2}$ to $72\frac{3}{4}$ c, closing yesterday at $71\frac{1}{2}$ to 72 . June 7 3-10 Bonds sold at $78\frac{1}{2}$, and Oregon War Debt 6 per cent. Bonds at $77\frac{1}{2}$.

Our latest telegraphic advices from New York quote Gold at $140\frac{1}{2}$ to $140\frac{3}{4}$, and Sterling Exchange 109 to $109\frac{3}{4}$.

The duties paid at the Custom House in this city from January 1st to the 28th inst., amounted to \$6,816,669.14.

The market is well supplied with Bullion, and Gold Bars are in demand at 840 to 845 . Silver is selling at 1 to $1\frac{1}{4}$ per cent. discount for good bars. Telegraphic Transfers are made at $2\frac{1}{2}$ per cent. premium, and Sight Drafts, payable in coin, are selling at $2\frac{1}{4}$ per cent. premium. Currency Bills on the Atlantic are offered at 35 per cent. premium on gold. Sterling Exchange, 49d. for best bills, and Commercial do. $49\frac{1}{2}$ to $50d$.

City Stocks are not offered except at full rates. The sales have been meagre during the past week. California Steam Navigation Co. sold at 65 per cent., seller 30; San Francisco Gas at $63\frac{1}{2}$ to $63\frac{3}{4}$; Union Insurance Co. at 125 ; North S. F. Homestead at 14.25 to 17.50 , and Spring Valley Water at 61 per cent. The 22d installment of \$10 per share of the South S. F. Homestead Association is now due.

The recent very material advance in the more prominent mining shares has been well maintained. We have encouraging news from nearly all the companies whose shares constitute the business of the Board, and it is said that at no previous period did the Comstock lode yield so largely as at present. In most instances, so far as we have been able to ascertain, the bullion returns for the month of November will exceed the October yield.

Crown Point was in the market to a limited extent during the past week, opening at \$880, seller 30, advancing to \$905, buyer 30, improving to \$900 to \$915, and closing at \$1,000, s. 30. During the week ending Nov. 23d, 723 tons of ore were extracted from the mine, 154 tons of which were taken from the fourth station; previous week, 597 tons were raised. On the fourth level, in going north, the vein is said to be about 21 feet wide, and a breast 20 feet south from the vein shows 12 feet of ore. The ore from these points averages from \$38 to \$40 per ton. The east drift from the fourth station is in about 90 feet and runs in vein matter. The receipts of bullion for the month just closed are estimated at \$100,000. It is yet too early to obtain the exact figures.

Savage opened at \$1,800, buyer 10, steadily advanced to \$1,830, then a few shares realized \$1,980, the bulk selling at \$1,890 to \$1,925, closing yesterday at \$1,890. During the week ending November 24th,

2,057 tons of ore were extracted from the mine—previous week, 1,971. Of this amount 811 tons were second-class and 1,246 third-class, averaging nearly \$39 per ton. The two stations in the Curtis shaft yielded 731 tons during the week under review. The assay yield of the 2,057 tons is given at \$79,396; cost of production, etc., \$40,694; estimated profit, \$38,702; profit previous week, \$47,623. The upper stations are now more productive than for some time past, and the quality of ore is said to be improving. Winze No. 3 on the sixth level is now 25 feet deep, and carries good ore, and the north and south breasts on the seventh level—just opened—exhibit ore of the same average quality as is found on the sixth station. The lower station drift in the Curtis shaft is within 25 feet of winze No. 3 from the sixth, and, it is said, produces good ore. A short distance from the fourth station a new body of fine ore, some six feet wide, has been discovered.

Hale & Norcross is little inquired for in the Board, and remains in firm hands. During the week \$2,000 was bid and \$2,500 asked. The returns of bullion to the 26th November inclusive—65 per cent. assay value of 2,668 tons of ore—aggregated \$153,075.27.

Yellow Jacket was dealt in at \$930 to \$940, fluctuating between \$940 to \$960, then sold at \$1,000, and closed at \$1,175, s. 30. This company, it is said, have concluded to forward a weekly letter to the office in this city, and the regular monthly balance sheet as usual. It is said that in drifting east from the winze in the lower level, south mine, after penetrating the main body of ore and 40 feet of loose, barren quartz, a second body of rich ore was found, the extent of which has not yet been ascertained. In the north mine, they are 20 feet from the ledge. At the Morgan mill, 1,500 tons of ore have been accumulated.

Gould & Curry sold uniformly at \$500 during the first half of the present week, then at \$510, and closed yesterday at \$500. The yield of bullion from this mine for November will be considerably in excess of the October returns.

Chollar-Potosi opened at \$202.50 to \$205, rapidly advanced to \$225 and \$240, then sold at \$235 to \$230, and at the close brought \$220. The developments in the Blue Wing station are said to be more satisfactory. The first station drift south in the new shaft is in 20 feet, where the vein has contracted to 6 or 7 feet, and contains clay and porphyry. The shaft is now 117 feet deep. The amount of ore shipped to mills during the week ending Nov. 24th aggregated 781 tons; previous week, 694 tons. This company now employ 156 men.

Ophir sold at \$185, then at \$197.50, seller 30, receded to \$190, relied to \$200, and closed at \$215. The north drift on the ninth station looks more favorable, it is said, showing small seams of quartz, and is now 54 feet from last cross-cut; the east drift north has reached a distance of 100 feet. The eighth station south yields from 4 to 6 tons of ore per day, and the seventh station north has been connected with the Walsh shaft. The Ophir-Mexican shaft has attained a depth of 75 feet below the ninth gallery.

Empire Mill met with small sales, opening at \$130, then selling at \$126 to \$128 and again at \$130, and at the close \$135 is bid. This mine continues to yield as usual, and we hear it from good authority that a dividend of \$10 per share is likely to be declared for the present month.

Imperial receded from \$128 to \$116.50 to \$111, then sold at \$117.50, improved to \$125, and closed at \$125. Up to the 26th November about \$45,000 in bullion have been received.

Belcher was sold at \$117.50 to \$120, receded to \$116, and sold yesterday at \$135. Confidence ruled at \$62 to \$61.50, and at the close sold at \$61. Bullion opened at \$18 to \$20, advanced to \$21, then sold at \$18.50, and closed yesterday at \$17 to \$15.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday, amounted to \$595,997.50.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, November 24.

15 shs Overman at 18 to 17 per share b 30.
10 shs Overman at 17 per foot, s 30.
70 shs Overman at 18 to 16 per share.
24 shs Ophir at 185 to 183 per foot, s 30.
36 shs Ophir at 187 to 185 per foot, s 30.
12 shs Ophir at 184 per foot, s 10.
103 shs Ophir at 185 to 183 per foot.
15 shs Chollar-Potosi at 202 to 205 per ft, h 10.
5 shs Chollar-Potosi at 205 per foot, b 30.
113 shs Chollar-Potosi at 194 to 205 per foot.
8 shs Gould & Curry at 500 per foot.
10 shs Imperial at 130 per share, b 30.
22 shs Imperial at 123 per share.
3 shs Yellow Jacket at 960 per foot, b 30.
13 shs Yellow Jacket at 930 to 940 per foot.
1 shs Savage at 1800 per foot, b 10.
1 shs Savage at 1700 per foot.
5 shs Empire M & M Co. at 130 to 129 per sh.
8 shs Empire M & M Co. at 130 to 129 per sh.
5 shs Union Insurance Co. at 135 per ft.
8 shs Crown Point at 875 to 885 per foot s 30.
16 shs Crown Point at 875 to 885 per foot.
10 shs S. F. Gas Co. at 63 to 64 per cent.
\$2,000 Legal Tender Notes at 72 to 73.
\$5,000 Legal Tender Notes at 72 to 73.

Amount of sales.....\$ 68,963 00

Monday, November 26.

10 shs Overman at 18 to 16 per share, h 10.
10 shs Overman at 18 per share s 30.
10 shs Overman at 18 to 16 per share b 30.
67 shs Overman at 17 to 16 per share.
1 shs Belcher at 117 to 116 per foot.
10 shs Bullion at 18 per share.
5 shs Chollar-Potosi at 205 per foot s 30.
10 shs Chollar-Potosi at 217 to 214 per foot, b 30.
79 shs Chollar-Potosi at 202 to 213 per foot.
84 shs Ophir at 182 to 197 to 197 to 197 per foot, s 30.
24 shs Ophir at 182 to 197 per foot b 15.
24 shs Ophir at 182 to 197 per foot, s 15.
216 shs Ophir at 185 to 191 per foot.
1 shs Savage at 1800 per foot, a 30.
1 shs Savage at 1820 per foot, b 15.
4 shs Savage at 1800 to 1820 per foot.
3 shs Empire M & M Co. at 128 to 125 per sh.
5 shs Imperial at 127 per share, b 30.
10 shs Imperial at 123 per share, s 10.
18 shs Imperial at 123 to 125 per share.
3 shs Yellow Jacket at 960 to 970 per ft h 30.
12 shs Yellow Jacket at 950 to 940 per foot.
\$4,000 U. S. 7-30 Bonds, June, at 73 to 74.
\$1,000 Legal Tender Notes at 72 to 73.

AFTERNOON SESSION.

12 shs Confidence at 62 per share.
16 shs Confidence at 63 per foot, h 30.
50 shs Overman at 19 to 18 to 18 to 18 per share.
10 shs Bullion at 20 per share, h 30.
20 shs Bullion at 20 per share.
61 shs Chollar-Potosi at 218 to 230 per ft b 30.
6 shs Chollar-Potosi at 225 to 226 per ft h 10.
5 shs Chollar-Potosi at 228 per foot, h 15.
41 shs Chollar-Potosi at 218 to 225 per foot.
3 shs Yellow Jacket at 960 to 950 per ft h 30.
4 shs Gould & Curry at 500 per foot.
1 shs Savage at 1830 per foot, s 30.
16 shs Imperial at 12 to 120 per share s 30.
5 shs Imperial at 118 per share, h 30.
43 shs Imperial at 116 to 121 per share.
70 shs North S. F. Homestead, 14 to 15 per sh.
\$1,250 U. S. 7-30 Bonds, War Debt 6 p e Bds at 77 to 78.
\$1,000 U. S. 7-30 Bonds, June is. at 73 to 74.

Amount of sales.....\$112,442 50

San Francisco Stock and Exchange Board.

FRIDAY EVENING, November 30, 1866.

	Bid.	Asked.
United States 7 3-10ths.....	\$ 77	\$ 78
Gov. Legal Tender Notes.....	71 1/2	72
State Bonds, 7 per cent.....	81 1/2	82
San Francisco 10 per cent.....	100	102
San Francisco Bonds, 1855, 6 per cent.....	94	100
San Francisco Gas.....	63	64
San Francisco Bonds, 1853, 6 per cent.....	70	72
Sacramento City Bonds, 6 per cent.....	18	25
Sacramento County Bonds, 6 per cent.....	—	63 1/2
Marquette Bonds, 10 per cent.....	70	75
Stockton Bonds, 10 per cent.....	85	85
Yuba County Bonds, 10 per cent.....	80	85
Butte County Bonds, 10 per cent.....	70	80
California Navigation Co.....	65	68
State Telegraph Stock.....	32	35
Sacramento Gas Co.....	—	76
Spring Valley Water Co.....	60	60 1/2

RAILROADS.

Sacramento Valley Railroad.....	—	—
Omnibus Railroad.....	65	60
Central Railroad Co.....	—	65
North Beach and Mission.....	49	52

MINING STOCKS.

Alpa.....	\$ 60	\$ 17
Bullion, G. H.....	14	13
Belcher.....	133	135
Confidence.....	61	63
Ophir.....	214	217
Gould & Curry.....	490	500
Empire M. & M. Co.....	135	—
Savage.....	1850	1885
Chollar-Potosi.....	220	223
Hale & Norcross.....	2000	—
Yellow Jacket.....	1175	1175
Overman.....	21	23
Crown Point.....	1000	—
Imperial.....	124	125

San Francisco Market Rates.

WHOLESALE PRICES.

	FRIDAY, NOV. 30, 1866.
Flour extra, 3 bbl.....	6 25 to 7 00
Do Superfine.....	6 00 to 6 25
Corn Meal, 3 100 lb.....	2 00 to 2 50
Wheat, 3 100 lb.....	1 00 to 2 00
Oats, 3 100 lb.....	1 35 to 1 50
Barley, 3 100 lb.....	95 to 1 00
Beans, 3 100 lb.....	2 50 to 3 00
Potatoes, 3 100 lb.....	80 to 1 25
Hay, 3 ton.....	7 00 to 14 00
Live Oak Wood, 3 cord.....	8 00 to 10 00

Beef, on foot, 3 lb.....	6 @ 6
Beef, extra, dressed, 3 lb.....	10 @ 12 1/2
Sheep, on foot, 3 lb.....	3 00 to 3 50
Hogs, on foot, 3 lb.....	7 1/2 @ 9
Hogs, dressed, 3 lb.....	10 @ 12

GROCERIES, ETC.

Sugar, crushed, 3 lb.....	13 @ 13 1/2
Do China.....	10 @ —
Coffee, Costa Rica, 3 lb.....	25 @ —
Do Rio.....	24 @ —
Tea, Japan, 3 lb.....	80 @ 90
Do Green.....	60 @ 1 25
Hawaiian Rice, 3 lb.....	9 @ —
China do.....	63 @ 7 1/2
Coal Oil, 3 gal.....	62 @ 68
Candles, 3 lb.....	16 @ 23 1/2
Ranch Butter, 3 lb.....	35 @ 65
Isthmus do.....	30 @ 38
Cheese, California, 3 lb.....	10 @ 17
Eggs, 3 doz.....	50 @ 52 1/2
Lard, 3 lb.....	15 @ 16
Ham and Bacon, 3 lb.....	18 @ 20
Shoulders.....	12 1/2 @ 15

Retail Prices.

Butter, California fresh 3 lb.....	45 @ 75
do pickled 3 lb.....	40 @ 50
do Oregon.....	35 @ —
do New York 3 lb.....	40 @ 60
Cheese, 3 lb.....	15 @ 25
Honey, 3 lb.....	30 @ 40
Eggs, 3 doz.....	60 @ 65
Lard, 3 lb.....	20 @ 25
Ham and Bacon, 3 lb.....	22 1/2 @ 25
Cranberries, 3 gal.....	1 75 @ 00
Potatoes, 3 lb.....	1 1/2 @ 2
do Sweet 3 lb.....	1 1/2 @ 2
Tomatoes, 3 lb.....	3 @ 5
Onions, 3 lb.....	3 @ 5
Apples, No. 1, 3 lb.....	3 @ 5
Pears, table 3 lb.....	8 @ 10
Plums, dried, 3 lb.....	20 @ 22
Peaches, dried, 3 lb.....	15 @ —
Oranges, 3 doz.....	50 @ —
Lemons, 3 doz.....	75 @ —
Chickens, apiece.....	87 @ 1 12
Soap—Pale & C. O.....	5 @ 10
Castile.....	14 @ 15

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.)

	FRIDAY, NOV. 30, 1866.
Iron.—Duty: Pig \$9 per ton; Railroad 60¢ per 100 lbs; Bar 10 to 1 1/2¢ per lb; Sheet, polished, 8¢ per lb, common, 1 1/2¢ per lb; Plate 1 1/2¢ per lb; Pipe, 1 1/2¢ per lb; Galvanized 2 1/2¢ per lb.	
Scotch and English Pig 3¢ per ton.....	36 @ 37
White Pig 3¢ per ton.....	36 @ 37
Refined Bar, had assortment, 3 lb.....	3 @ —
Refined Bar, good assortment, 3 lb.....	3 1/2 @ —
Boiler No. 1 to 4.....	4 @ —
Plate No. 5 to 9.....	4 1/2 @ 6
Sheet No. 10 to 13.....	4 @ —
Sheet No. 14 to 20.....	5 @ —
Sheet No. 24 to 27.....	5 1/2 @ —
Copper.—Duty: Sheathing 3 1/2¢ per lb; Pig & Bar 2 1/2¢ per lb.	
Sheathing 3 lb.....	34 @ 36
Sheathing.....	20 @ 30
Sheathing, Yellow.....	27 @ 25
Sheathing, Old Yellow.....	13 @ 14
Bolts.....	13 @ 16
Composition Nails.....	30 @ 32
Tin Plates.—Duty: 2 1/2¢ per lb.	
Plates, Cbarecal, IX box.....	15 @ —
Plates, I C Cbarecal.....	13 @ —
Roofing Plates.....	11 @ —
Banca Tin Slabs, 3 lb.....	25 @ —
STREET.—English Cast Steel, 3 lb.....	12 1/2 @ 16
QUICKSILVER.—Per lb.....	— @ 60
For export.....	— @ 60
ZINC.—Shots 3 lb.....	— @ 11
LEAD.—Pig 3 lb.....	8 @ 9
Sheet.....	10 @ —
Pipe.....	10 @ —
Bar.....	10 @ —
BORAX—California, 3 lb.....	20 @ 23

FRUIT STRAINS MAY BE REMOVED from white linen or cotton by first slightly moistening the spot with steam from a tea-kettle nose, or by allowing it to become moistened without dipping; then hold the same over burning brimstone. One or two lighted matches will answer the purpose; being careful to hold it so high as not to scorch, and yet to allow it to receive the full benefit of the fumes from the match.

Amount of sales.....\$114,855 00

Wednesday, November 28.

24 shs Ophir at 193 per foot, s 30.
60 shs Ophir at 400 per foot b 30.
102 shs Ophir at 192 1/2 per foot.
72 shs Ophir at 197 1/2 per foot.
10 shs Gould & Curry at 510 per foot.
10 shs Gould & Curry at 800 per foot.
3 shs Savage at 190 per foot.
2 shs Savage at 1800 per foot.
5 shs Chollar-Potosi at 240 per foot b 20.
15 shs Chollar-Potosi at 215 per foot.
20 shs Chollar-Potosi at 230 per foot.
2 shs Cal. Steam Nav. Co. at 65 per ct, s 30
5 shs De Roto at 2 per share.
4 shs Belcher at 120 per foot.
5 shs Belcher at 117 per foot.
10 shs Imperial at 124 per share, b 30.
15 shs Imperial at 118 per share.
16 shs Imperial at 122 per share.
2 shs Yellow Jacket at 975 per ft s 30.
2 shs Yellow Jacket at 990 per foot s 30.
1 shs Yellow Jacket at 1000 per foot, b 15.
35 shs Yellow Jacket at 960/962 1/2 per foot.
5 shs Overman at 22 per share b 30.
5 shs Overman at 23 per share, b 30.
35 shs Overman at 21 per share, s 10.
10 shs Overman at 20 per share s 10.
100 shs Overman at 22 per share.
60 shs Overman at 21 per share.
12 shs Crown Point at 900 per foot.
12 shs Crown Point at 915 per foot.

AFTERNOON SESSION.

12 shs Ophir at 197 1/2 per foot s 30.
12 shs Ophir at 193 per foot, s 30.
1 shs Yellow Jacket at 1000 per foot, b 15.
35 shs Ophir at 195/200 per foot.
9 shs Belcher at 116/117 per foot.
15 shs Chollar-Potosi at 227 1/2 per foot, s 30.
16 shs Chollar-Potosi at 227 1/2 pr ft b 30.
40 shs Chollar-Potosi at 227 1/2 per foot.
36 shs Chollar-Potosi at 220 per foot.
4 shs Crown Point at 940 per foot, s 30.
16 shs Crown Point at 950/957 1/2 per foot.
8 shs Gould & Curry at 500 per foot.
5 shs Imperial at 123 per share s 3.
10 shs Imperial at 125 per share, b 30.
20 shs Imperial at 122 per share.
15 shs Imperial at 123 per share.
1 shs Savage at 1900 per foot, s 30.
3 shs Savage at 1925/1930 per foot.
5 shs Overman at 23 per share b 15.
30 shs Overman at 22 per foot.
35 shs Overman at 22 1/2 per share
1 shs Yellow Jacket at 995 per foot, s 30.
1 shs Yellow Jacket at 1000 per foot, s 30.
2 shs Yellow Jacket at 1020 per foot, b 30.
2 shs Yellow Jacket at 1030 per foot b 30.
5 shs Yellow Jacket at 990 per foot.
6 shs Yellow Jacket at 1000 per foot.
2 shs Bullion at 18 1/2 per share.
10 shs North S. F. Homestead, 17 1/2 per sh.

Amount of sales.....\$162,942 00

MINING SHAREHOLDERS' DIRECTORY

(Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals).

Comprising the Names of Companies, District or County of Location, Amount of Assessment, Date of Meeting, Day of Delinquent Sale, and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT' OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Arbitros M. Co. \$1.50.....	Dec 4-Dec 2*		
Adella M. Co. \$1.....	Nov 24-Dec 15*		
Ancient River Channel B. G. M. Co. \$2.....	Dec 25-Jan 14		
Belcher Co. \$5.....	Annual Meeting Dec 17		
Belcher M. Co. \$11.....	Nov 17-Dec 18		
Bacon Mill & M. Co. \$10.....	Dec 11-Dec 23		
Colorado S. & C. M. Co.	Annual Meeting Dec 24*		
Chaparral Hill G. & S. M. Co. 150.....	Dec 10-Dec 31*		
Chilopetua M. Co. \$5.....	Dec 1-Dec 17*		
Crown Point, dividend, \$30 ft.....	Payable Nov 15		
Confidence S. M. Co., Storey Co., Nev., div. 10 p. 6, Pay July 9	Dec 1-Dec 17*		
Central M. Co. \$1.....	Dec 1-Dec 17*		
Cole S. M. Co. \$1.....	Dec 1-Dec 17*		
Del Norte Comstock Co.	Annual Meeting Dec 3*		
Daley G. & S. M. Co. 75c.....	Nov 2-Dec 3		
Eureka, San Juan, dividend \$1.50 per sh., Pay 14th-Sept 3	Payable Nov 9		
Empire M. & M. Co. dividend.....	Payable Nov 9		
Enterprise G. & S. M. Co. \$7 1/2.....	Nov 19-Dec 10		
Geo. Washington G. & S. M. Co. Alp. Co. \$2.50.....	Dec 8-Dec 24*		
Great Central M. Co. \$1.....	Nov 15-Dec 3*		
Gould & Curry, dividend \$30 ft.....	Payable June 8		
Great Central M. Co. \$1.....	Nov 15-Dec 3*		
Golden Rule M. Co., dividend.....	Payable Nov 16		
Hope Gravel M. Co. \$1.....	Dec 23-Jan 15*		
Humboldt O. & S. M. Co. Nov. \$2.....	Nov 1-Dec 15*		
Hale & Norcross, dividend.....	Payable Nov 15		
Imperial G. & S. M. Co. dividend \$3 sh.....	Payable Nov 15		
Independent G. M. Co. dividend.....	Payable Sept 1		
Iron G. M. Co. \$2.....	Dec 15-Dec 27		
Jefferson G. & S. M. Co.	Annual Meeting Dec 12		
Jefferson G. & S. M. Co. Yuba Co. Div. \$10 sh.....	Payable Aug 23		
Keystone M. Co. Calaveras Co. \$10.....	Jan 21-Feb 11*		
Kohler Bros. S. M. Co. \$1.....	Dec 3-Dec 20		
Lady Bell C. M. Co. 10c.....	Nov. 23-Dec 10*		
La Blanca G. & S. M. Co. \$1.....	Nov 8-Dec 6*		
London G. M. Co. \$30.....	Dec 3-Dec 26		
Mineral Mountain G. & S. M. Co. 10c.....	Dec 10-Dec 31*		
North S. F. H. & R. R. Ass'n \$12.50.....	Nov 12-Dec 12*		
Napoleon C. M. Co. \$3.50.....	Nov 24-Dec 10		
North Star G. & S. M. Co. \$10.....	Dec 10-Jan 5		
Ophir S. M. Co. Nevada, \$6.....	Nov 19-Dec 4		
Overman S. M. Co. \$5.....	Nov 17-Dec 4		
Pacific Coal M. Co. \$5.....	Dec 24-Jan 21*		
Providence G. & S. M. Co. \$2.....	Nov 21-Dec 8*		
Patrocina and Dolores S. M. Co. Nov. \$1 1/2.....	Nov 17-Dec 3		
Pacific Rolling Mill Co. \$1.....	Nov 27-Dec 13		
Salamanca G. & S. M. Co. 20c.....	Nov 24-Dec 15*		
San Antonio M. Co. dividend.....	Payable Oct 8		
Savage S. M. Co. dividend.....	Payable Nov 9		
Sinner G. & S. M. Co. \$5.....	Dec 10-Jan 5		
Sierra S. M. Co.	Annual Meeting Dec 10		
Tuolumne M. G. & S. M. Co. \$1.....	Dec 8-Dec 2*		
Telluride G. & S. M. Co. \$1.....	Nov 15-Dec 4*		
Texas Flat M. Co. 20c.....	Dec 20-Jan 21		
Yellow Jacket S. M. Co., div. \$50 sh.....	Payable Nov 15		

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Amount of sales.....\$137,085 50

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Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Amador County—

From the *Ledger* of Nov. 24th: The Coney & Bigelow mill, now under the control of C. T. Meader, of Stockton, after lying idle for three weeks, during which time extensive improvements have been made, fired up on Tuesday last and is now running night and day on very rich rock. The appliances used in this mill for saving the sulphurets are unlike any others to be found in this State, and are nearer perfection than has heretofore been obtained. The machinery is the invention of Mr. S. F. Ambler, who is the superintendent of the mill.

The Kearsing mill is running again. At present it is only grinding sulphurets. It has been leased by Mr. Meader, who is attaching to it Ambler's sulphuret apparatus. When this is completed the mill will commence crushing rock from the Coney & Bigelow mine. Atchison & Co. are still pushing work on the Austrian mine, and the farther they go the better they are pleased with it. They will erect a mill at once. The quartz claim of "Old Boh," located in Walker's field, adjoining town, is proving better and better as the work progresses on it. That piece of ground is bound to prove a good investment to some one.

From Middle Bar, on the Mokelumne, to Yeomet, on the Cosumnes, the northern and southern termini of the quartz belt in Amador county, a distance of sixteen or eighteen miles, scarce a foot remains unclaimed. Nearly a hundred mines are fully or partially developed, and others are being daily uncovered. The number of mills will average one to each mile, and nearly all are profitably employed.

Calaveras County—

The following is from the correspondence of the *Chronicle*, dated West Point, Nov. 22d: The mining prospects of this portion of the county were never more promising than at present. During the past season numerous rich lodes have been discovered in various localities, and large quantities of paying ore are being mined from them. Heretofore the custom mills of our district have been ample to crush all the ores taken from the mines, and at times some had to lie idle for the want of ore to work on; but the miners, taking advantage of the present fine weather and good condition of the roads, are now hurrying their rock to the mills, and many of them are so crowded that they cannot possibly get through with their contracts for crushing before spring. From the Zacletara lode, at Skull Flat, they continue to mine large quantities of first-class ore, which yields regularly from \$100 to \$125 to the ton. In the Barnes mine, a short distance above the Zacletara, they have recently discovered a large body of ore, much more extensive and richer than that heretofore worked. Johnson & Willis have just finished their drain tunnel, and find exceedingly rich ore at a depth of fifty feet below their previous works. Parties working the Homestead mine, owned by Cummings & Hadler, have just finished crushing a large quantity of ore taken out during the summer, and it yielded them \$115 per ton.

Carlton is working a very rich lead located a short distance from the Homestead, and has out a large quantity of first-class ore, but his mill near by is so crowded with custom work that he cannot crush his own rock. A. Bouglival, formerly superintendent of the Mina Rita mill, has recently purchased the Oro Plata mine, on the Licking Fork, and, so far as he has worked it, has met with the most encouraging success. The lead is quite large, and yields very rich ore. He is now remodeling the mill belonging to the mine, and will commence crushing in a short time. Reed & Brown, of this place, are having a quantity of rock, taken from their lead at Railroad, crushed at Harris' mill, on Sandy Gulch, and it is estimated that it will yield over \$100 to the ton. Gratacap & Co. have out, at their mine at Railroad, some two hundred tons of splendid rock, a portion of which they intend hauling to Harris' mill next week.

[See also for Calaveras mines our correspondence for this week.—Eds. Press.]

Colusa County—

From the *Sun*, of Nov. 24th: The smelting works at Ashton are fast approaching completion, and before long we will be shipping the refined copper from our landing. The works have been erected at a cost of many thousand dollars, and the men who are managing the concern are scientific men. The first ton of copper refined will be the signal for active operation in a number of the claims.

Some months ago Mr. J. D. Abbott found indications of quicksilver about three miles from Sulphur Spring. He took up some claims and went to work, and in a very few

days struck a well defined lode. An extension was then taken up and a tunnel started, and ten days' work struck the same ledge about a thousand feet from Abbott's location. The cinabar taken out will yield about thirty per cent. of pure quicksilver.

El Dorado County—

From the Kelsey correspondence of the *Mountain Democrat*, Nov. 21st: The rich strike in the Woodside & Shanklin lode at Georgetown has given a new impetus to mining in this township. We have an abundance of gold-bearing quartz ledges, which only need developing to make them remunerative, and they will be worked now.

Georgetown correspondence of same paper, Nov. 22d: Fitch, who has charge of the first northern extension of the Woodside ledge, was in town last week looking at the claim and inspecting the work already done, and rumor has it that he will immediately erect works for pumping and hoisting. The prospect is good for a paying ledge.

The parties who recently purchased the Taylor ledge are here making preparations to commence work. This claim is located about three miles from town, in a southwest course, and has always had the reputation of being a good ledge. Considerable work has already been done on this claim, and there is now a large lot of rock out which it is calculated will pay well for crushing. Parties have been prospecting on the first extension of the Woodside claim and have found quartz which prospects very well, but at present the work is suspended. Some work is being done on the second southern extension, but with what success I have been unable to learn.

Klamath County—

From the *Humboldt Times* of Nov. 15th: Two tons of rich copper ore from the "Red Cap" claim, Klamath county, arrived here on last Monday. The Red Cap Company have now in store here ten tons of as rich copper ore as was ever taken from a mine on the Pacific coast.

Nevada County—

From the *Gazette* of Nov. 22d: In the California mine everything is going ahead like clock work. Since the hoisting works were started the incline has been sunk about sixty feet, being now two hundred and twenty-five feet below the surface, and fifty feet below the old works on the ledge. The work on the mill is progressing rapidly, the machinery being all on the ground, and the intention is to have it running about the first of January next.

The mill erected at the Grizzly ledge is nearly completed, and will be started in operation this week. The ledge is now looking finely. The mill has only five stamps; but if the ledge proves as valuable as is now anticipated, another mill of greater capacity will be erected next season.

From the *Grass Valley Union* of Nov. 22d: We yesterday saw a lot of magnificent specimens of quartz from the Union Hill. They were taken from the lower level, at a perpendicular depth of probably one hundred and fifty feet, where the vein varies in width from two to four feet, the ledge improving every foot as it is descended on. The quartz is well filled with beautiful free gold, and shows plenty of galena and very rich looking sulphurets. The ore now being extracted will average \$100 per ton.

The Gold Hill mine, which was the first quartz discovery made in Nevada county, and which has turned out more gold than any other quartz mine in California, although it has been almost idle for the past few years, has recently passed into the hands of Hooper & Co., who are determined to work it thoroughly.

From same of 23d: The inclined shaft of O'Connor mine, on Union Hill, is being pushed ahead in a most satisfactory manner. It is now down to a depth of about seventy feet, the work having been commenced only a few weeks since. The shaft is twelve by five feet.

From the *National* of Nov. 22d: Some radical changes are being effected in the arrangement of the works of the Empire mine. The hoisting works are being removed 150 feet north of their present position, over the old shaft, directly in front of the mill. The old shaft and works are being cleaned out and, in fact, everything is being arranged in a more convenient manner.

From the *Transcript* of Nov. 21st: George S. Pierce has just completed a 10-stamp quartz mill for the Eagle Company, at Grizzly Cañon, near the Magenta dume. The mill was built and started within three weeks. The company have a large amount of rock out, and will soon have a return from the mine. The Eagle Company own six or eight ledges in the vicinity of the mill. * * * The Gouge Eye Company at Hunt's Hill, cleaned up \$1,200 on Saturday, after 4½ days run. They have a fine body of cement in eight in the new tunnel. * * * Another rich strike has been made in the claims of Heydcliff & Co. They are said to be running on one of the richest streaks ever found on the Blue Lead.

From the same of 26th: County Assessor Bean has recently visited the cement mines about Hunt's and Quaker Hills, and has obtained some valuable statistics, from which we are enabled to learn something of the cost and profit of working cement. The Gouge Eye mill, owned by Goodspeed & Co., at Hunt's Hill, cost \$3,000. The mill has eight stamps, and is run by a hurdy-gurdy water wheel, which requires 52 inches of water per day. Water costs 25 cents per inch. The mill crushes 50 tons of cement every 24 hours, and the actual cost of working it is \$22 per day. The last crushing of 225 tons, worked in four days and a half, paid an average of \$6 per ton. This company has drifted on the channel a width of 150 feet, and have a bank of cement 20 feet deep. Among the other mills on the west of Greenhorn Creek are the Green Mountain, a new 10-stamp mill, and the Empire, which is of the same size. Carney & Tucker have a new 8-stamp mill which works 60 tons in 24 hours. The Eastern and Jenny Lind companies also have excellent mills. These mills are all run by water power, and use the hurdy-gurdy wheel, which is considered by miners the best in use. All the claims on the west side of Greenhorn Creek are looking well.

Excelsior.—From the *Sun* of Nov. 17th: The Winton mill and furnaces are now leased by Baron F. Stech and N. W. Winton. The former will have the management of the property. An additional battery of four stamps will be immediately erected and made ready for effective service. This mill and the Metallurgical works, will be employed during the winter chiefly in crushing and reducing, by chlorine process, ores from the Pacific and Confidence claims.

In a fortnight from this date the mill of the Mohawk and Montreal Company will be at work. It will be constructed on the shore of Phoenix Lake, a short distance from the ledge, and within a few feet of water. The expense saved in a year in the transportation of rock will alone pay the cost of the mill ten times over.

The Gold Hill *News* gives the following account of the trouble between the Golden Eagle and the Excelsior Companies. The former having struck a rich lead, the latter professed to claim a portion of the district, and during the night destroyed the frame of the mill which was being erected by the Golden Eagle. They also prepared to contest with arms the occupation of the ground. Not wishing to fight, the other party swore out a warrant and had the whole party arrested. After a two days trial, the officers of the company were fined, and in default of judgment committed to the lock-up. The occasion gave general satisfaction; and the citizens united in rebuilding the mill which had been torn down. The machinery for the mill is now on the Divide, between this place and Virginia, and will be forwarded immediately to Excelsior. The ore which is being taken out is said, by those just in from there, to be literally filled with free gold. The mill will be in running order about the first of January, and will be run during the winter.

Plumas County—

From the *Quincy Union* of Nov. 17th: There are two or three companies at work at the old Elizabethtown placer mines, and are making very good wages. * * * The French Ravine Quartz Company had declared and paid a dividend of \$175 to each share in the company—the expenses first having been paid. The money made by the company was by crushing quartz from the ledge in a hand mortar. There are eight shares in the company.

A few months since a company of men from the East Branch, started out to prospect for quartz in the Gravel Range section of this county. They hoped to be able to strike the extension of the French Ravine ledge. On their trip they discovered a small seam of quartz about one inch in width and four feet long, from which they took out enough to pay all their expenses on the trip and to declare a dividend of \$70 to each man.

Shasta County—

From the *Courier* of Nov. 24th: Kelly & Co. have removed the old Log mill from Midletown to their claim on the Jollie lode, and will have the machinery ready to run by the first of next month. * * * Last week the Mammoth Company cleaned up \$531.53, after a run of five or six days. The lode is now yielding some very rich rock, but owing to the bad state of the road leading from the shaft to the mill, but little headway is made, and the mill has to remain idle a portion of the time.

The Honeycomb company cleaned up after a short run last week, and realized \$234.80. We are not advised as to the amount of rock crushed. * * * The Kellinger Company have received returns from the twenty tone of rock recently sent to San Francisco for smelting, and we are informed that the yield was forty dollars to the ton, in gold and silver. Upon the strength of this result the Trustees have decided to commence the erection of

smelting works at Copper City, and work will also be resumed on the tunnel. * * * L. A. Kelley has made six careful assays of rock taken from different ledges in the South Fork district. The highest assay reached was \$495 20 in silver, and the lowest result was \$235.30. * * * Silver City, a mining village on North Crow Creek, is entirely deserted at present, the smelting works erected there having proved a complete failure.

A correspondent of the *Courier*, writing under date of November 16th, says: South Fork is brightening up; prospects were never more cheering. The Ohio company are sinking on a fine body of ore six feet thick, and showing native silver at every blast. The Pacific tunnel was run through a ledge yesterday which is exceedingly rich in gold and silver. Since the change in the proprietorship of the Crystal took place, the east ledge has been tapped at the distance of forty feet. The lode is three feet thick, with the same massive blocks of solid mineral as are now found in the celebrated Chicago. The shaft is being pushed down as fast as possible under the circumstances. The rock assays \$343 to the ton.

Workmen are busy taking out ore from the Potosi lode, which continues to improve in width and richness as the shaft descends. The company are erecting an ore house over the shaft. Work will shortly be resumed on the Live Oak claim, located on Spring Creek. The croppings of this lode prospect richer than any other quartz claim ever taken up in the county. A few years ago John Seaman took \$15,000 from a claim in North Cow Creek, and finally deserted it, thinking he had worked out all the valuable ground. Recently R. Barney went to work in the same claim, and discovered the continuation of the old pay lead, which prospects as high as fifty cents to the pan.

The Nevada *Gazette* says of the Chicago ledge: A tunnel has been run in the ledge a distance of one hundred and thirty feet, and a shaft sunk at the head of the tunnel to a depth of sixty feet. On the surface the ledge is about eighteen inches in width, and at the bottom of the shaft between four and five feet. From the rock taken from the tunnel and shaft, the owners have selected about twenty tons of first-class ore, which was shipped to San Francisco, where it sold at from \$200 to \$344 a ton. The remainder of the vein rock will yield forty dollars per ton by working process. It is forty miles from Red Bluff and sixteen miles from Shasta.

Sierra County—

From the *Messenger* of November 24th: The Oak Flat Quartz company, situated about eight miles south of Downieville, are quarrying a rich class of ores heavily impregnated with auriferous sulphurets, assaying \$382.16 gold per ton, and \$8.70 silver, making a total of \$390.86.

The Fac Simile company, in the same group of veins as the Oak Flat, from an average sample of vein (which was taken from 250 feet below the surface), forwarded for an assay test, a result of \$401.61 gold per ton, working process, was obtained. From concentrated sulphurets taken from sample after free gold was extracted, a result was also obtained of—gold, \$5,675.77; silver, \$85.80; making a total of \$6,163.18 per ton of 2,000 pounds.

Tulame County—

The Sonora *Herald* of Nov. 17th, says: The prospecting for quartz is now becoming more prevalent than at any time since the formation of our county. Practical miners have been for the past three weeks locating and working claims, some of which, they have informed us, have already shown good indications. Quartz mining is now being carried on extensively at Jamestown, and from the prospects of recently located diggings, great results are anticipated.

Yuba County—

From the Marysville *Appeal* of Nov. 27th: We understand that the new mill of the Pennsylvania Mining Company, at Brown's Valley, will be put into operation on Monday, the 10th of December. The machinery will probably be tested on Saturday or Sunday preceding, when a bottle will be broken over the piston and the mill pronounced good. The stock is now held at \$90.

Templar No. 2 have struck a well-defined ledge eight or nine feet in width. Several months ago the company lost the ledge in their incline and quit sinking it. They, however, went below and started a tunnel with the intention of running it three hundred and fifty feet towards where the ledge was supposed to be. The tunnel was run about three hundred and twenty-five feet on Saturday, where a ledge, in very hard casings, eight or nine feet thick, was struck. The water prevented an immediate prospect, but there is good reason to believe that it is a paying ledge. The question of its richness will soon be settled, as the company will immediately commence crushing. The effect of this discovery has made a wonderful change in the price of Templar stock. It has been selling lately for assessments of fifty cents, but to-day is held at five dollars. Sev-

eral feet were sold at Indiana Rauch, on Sunday, at this price.

NEVADA.

Washoe.—[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

From the Gold Hill *News* of Nov. 20th: Everybody is busy, both at the mines and mills. In Spring Valley, old claims are being relocated, we learn, to hold for low-graded ores, which there abound, and which will, within two years, be available when railroad facilities are added.

Same of 22d: All the mines of Gold Hill and Virginia are laying in very heavy supplies of timber for mining purposes. There is more life and stir among the mines of Gold Hill than we have ever before seen.

From the Virginia *Union* of Nov. 20th: The Gold Hill mill has suspended operations for the present, owing to a scarcity of water, but the company are busily repairing and overhauling it throughout, to commence work again when water becomes plenty. The Union mill has also been stopped for a week or so to repair their boilers and other things in general. The Crown Point mill stopped running on Saturday last for repairs. It will be running again in a few days.

Same of 24th: The Cole Tunnel is now in 1,550 feet, and those engaged in the work expect to reach the ledge soon. The last fifty feet run has been through very hard rock, but now a soft shell rock has been reached. When this company taps its ledge with the tunnel now being run, it expects to obtain a supply of thirty or forty inches of water. The new eighty-horse power engine of the Kentucky Mining Company is nearly ready for use. The frame of the new Petaluma mill is up, and workmen are now roofing it. There are two fine boilers, twenty feet in length, up and ready for use, and workmen are now setting the boiler, a forty-horse power. The mill is being built by contract, and a large force is at work on it. It will be completed in about three weeks, and will contain sixteen stamps. The Santa Rita Tunnel now supplies 35 inches of water, for which the water company pays \$40 per inch per month. The additional supply just obtained is needed, and it will perhaps enable some of the mills to start up that have recently been compelled to shut down owing to the scarcity of water. From the office of Wells, Fargo & Co., in this city, there were shipped, during the last week, 6,734 pounds of assayed bullion, valued at \$177,529.75; from their office in Gold Hill, 5,144 pounds, valued at \$160,915.47.

Reese River.

From the *Reveille* of Nov. 17th: Col. Buel brought to town last evening eight bars of bullion, worth about \$8,000. They were from his mine and mill at Silver Bend.

The same paper has an editorial, comparing the Comstock ledge and Mount Davidson with the Nevada Giant ledge and Mount Tenabo. The former seem small by the side of the latter. We quote: Mount Tenabo towers ten thousand feet above the sea, and fully a mile above the valley at its base. The great vein crops out for a distance of over five miles, crossing the mountain diagonally, going from its base on the southwest to past its summit on the northeast. So conspicuous and so mammoth are its proportions that it can be distinctly seen and traced from a distance of thirty or forty miles, resembling a great wall or balustrade to the towering dome of the mountain. The width of this vein varies from one hundred to eight hundred feet, and in it are found chimneys of ore showing above the surface thousands of tons, and of undisputable value. From these croppings several tons have been brought to this city from time to time, and found to work at the mills from \$150 to \$500 per ton. * * * The Cortez company are packing the ore on mules to their mill, some seven or eight miles distant. * * * This is only one of the veins of Reese River, and by no means regarded as the head, yet this has gone a begging for years. How much longer shall we wait? and what kind of facts or information do capitalists require to induce them at least to examine?

From same of 17th: The Savage mine, on Lander Hill, within the limits of the city of Austin, is one of those "razor-blade" mines which have been so vilified abroad. The following exhibit of the production of the mine from its first working in 1863 to November 14th of the present year, which has been compiled from the books of the office, will show the steady increase in the amount:

Yield of 1863.....	\$ 3,626 21
" 1864.....	29,608 75
" 1865.....	309,913 84
" 1866 to November 14th.....	165,114 27
Total yield.....	\$308,263 07

The yield of bullion for the present year will exceed \$200,000, as there is a month and a half yet in which to produce less than \$25,000, and the mine is now yielding over \$1,200 per day. But these figures do not nearly show

the production of the mine. Its huge ore dump—the accumulation of over three years—contains, according to the estimates of experts, fully 4,000 tons of ore, which will yield easily \$50 per ton. * * * As they go down the vein improves. The present hoisting apparatus and pump—which, by the way, were the first erected in this district—are inadequate to sink the work to a much greater depth, and it is the intention of the managers to place on the mine early next year, machinery of sufficient power to sink to the depth of 1,000 feet.

From same of 19th: On Saturday a handsome lot of bullion was brought into town from the mill of the Twin River Mining Company. There were about ten thousand ounces. We believe the stream of silver will flow steadily from that source in the future.

From the same of the 23d: Langworthy's Knickerbocker Mill, at Lone, is now, since the furnaces were rebuilt, regarded as one of the most efficient and complete in the eastern portion of the State. It is supplied with ore from the Great Eastern mine. The large vein of the Great Eastern yields mineral of different grades, which will work from \$60 to \$200 per ton. The great bulk of the ore is of the lower grade, but that can be reduced in a large mill at a handsome price.

Esmeralda.

From the Aurora *Union* of Nov. 17th: Mr. Zogalla, of the Mason Valley copper mines, leaves soon for New York, to make arrangements for putting up smelting works upon those mines.

Work is steadily going on in the Juanita and in the mine of the Philadelphia company.

In the Wilson District, on East Walker river, the country is being prospected in all directions. Several mills will be erected this fall. The Mastodon and Himalaya are getting good prospects. Wood and water are abundant.

Humboldt.

From the *Register* of Nov. 17th: G. W. Holt was down, this week, with bullion from his mill, situated near Guinca's Bridge. He tells us a marvelous discovery, apparently, has been made, within the past few weeks, some distance from Fairbanks' farm in Paradise Valley, Winnemucca District. Judging by the amount and appearance of the bullion produced from a working of 2,400 lbs. of the rock from the ledge, it will pay upwards of \$100 to the ton; and Mr. Holt says the ledge is about 20 feet wide and has been traced three miles. The rich rock is abundant, and teams had started up to commence a regular winter's work of hauling. Holt says the one company now working can easily keep his mill busy all winter, and promises to do so.

Full & Co. shipped, this week, 500 ounces of bullion from Winnemucca District. It contains a considerable percentage of gold, and is expected to assay at least \$2 the ounce. * * * The Manitowoc Company dispatched by Wells, Fargo & Co., Friday, 1,000 ounces bullion.

J. C. Fall is making arrangements to work the Agamemnon ledge. He acts in behalf of the Pioneer and Laskip Company, of New York.

Black Rock.

Correspondence of the Marysville *Appeal*, dated Susanville, Nov. 16th, has the following: The Black Rock region is attracting much attention at present, and is either the biggest thing or the biggest "hulk" in all creation. Judging from the appearance of the rock it would seem to be the latter; but judging from facts and figures, it is near the former as Washoe, if not nearer. The ore is extremely rebellious, the silver existing in a chloride state and defying the most experienced. It is of a kind rarely found. It resembles black, green and red wax. Some of it is variegated like Castile soap. It yields by mill process from \$40 to \$256 per ton. The leads are from three to one hundred feet in width, and some of the larger ones crop out thirty feet above the surface of the ground. A gentleman who visited the country informed me that a hundred million tons of ore could be taken from the leads at a cost of \$2 per ton.

IDAHO.

From the Owyhee *Avalanche*, of Nov. 10th: It is pretty well settled that the Morning Star mill will resume business soon under the management of W. L. Burnham and D. H. Jackson. As we are informed, the Vulcan ledge, a north extension of the Silver Cord, prospects exceedingly well, and shows a width of four feet, and there are already two hundred tons of good quartz ready to haul. Parties have contracted to take out quartz during the winter for a stipulated price, and Mr. Loucks is getting everything in readiness for a winter's work in the way of transporting it to the mill.

The same paper, in reviewing an article on "Eastern Capitalists and their mode of mining," makes the following remarks: "Eastern men, at first, don't seem to go at it as if to make a business of mining—a matter for years—but apparently throw their money out as bread upon the waters. They put their money and faith all in the hands of a person entirely unacquainted with any kind of mining, and

send him thousands of miles into the mountains to build a mill and open a mine; and if he don't do both in a year and have money left, he's an 'incompetent agent'—if not dishonest. The original capital is generally too limited, and the manner of expending it entirely wrong."

MONTANA.

From the *Post* of Nov. 10th: The first trial of Prof. Steitz's cupel furnace on ore from the Legal Tender lode, in Rattlesnake district, was a complete success. The ore was worked within a small fraction of the assay.

Letter from Helena to same, dated Oct. 29th, says: Work on the copper ledge discovered by McLaughlin and Dickerson, in the Muscle Shell country, is going on briskly. The ore will be shipped to the East. The average assay is 63 per cent. of metal.

Letter from Jefferson City, under date of Oct. 29th, has the following: In the Gregory, the vein has been struck at the depth of sixty-five feet, by tunneling a distance of 125 feet. The vein is six feet thick. The company will have a smelter in the spring. In the discovery claim, there is a crevice of four feet. Preparations are being rapidly made to prove other lodes—the Indiana, Corris Annie, Olive and others, all being of a similar galenic nature and assaying high.

From the Rocky Mountain *Gazette* of Nov. 10th: The McClellan Creek ditch is now completed. It is eight miles long, carries 200 inches of water, and the source of supply is inexhaustible. This renders an immense amount of ground available—gulch, hill and bar diggings. Several hundred men are now busily engaged on the ground covered by this ditch. There are many acres of wages paying ground not yet worked; but it is all claimed. Quite a promising town is springing into existence, in consequence of this new impetus given to business in Mitchell Gulch.

ARIZONA.

From the *Miner* of Oct. 13th: The Coulter quartz mill on Lynx Creek is fast approaching completion. It promises to be one of the best mills in the Territory, and its owners are full of energy. Mr. Hendy has introduced a bill in the council to repeal the chapter of the Howell code which contains the mining law of the Territory. Mr. Davis, of Mohave county, is said to be preparing a substitute.

John H. Marion, one of the prospecting party which left Prescott in July last, writes, Sept. 10th: "We have traveled over a vast extent of country, but, as yet have found nothing in the shape of gold. We kept too far north and east for that purpose. A portion of us, now, are going with a Mexican guide, to the White Mountains. He has lived long with the Coyotero Apaches, and says there is gold there. These Apaches are said to be peaceable."

From same of Oct. 27th: A. O. Noyes and George W. Curtis have procured a 10-stamp mill, which is on the road here, and destined for the Umpqua lode. With the mill they have two tons of extra shoes and dies, and all the fixtures to run the mill in the best style.

There was great rejoicing on the arrival of the steamer Esmeralda at Callville. O. D. Gass writes: "There are few aware of the anxiety of the people of Utah to hear of the success of this undertaking. Every inhabited valley and mountain hamlet will jump with joy to hear the glad tidings."

From the Wilmington *Journal* of November 17th: The Moss Mining Company, in Arizona, have fitted up their 10-stamp mill, which was expected to be in operation by the 15th inst. Quantities of extremely rich auriferous quartz were already at the mill, and still larger quantities were at the mine, awaiting transportation to the mill.

Arizona correspondence of the *Alta* of Nov. 13th, after alluding to the richness of the mines, and their neglected condition, at this time, even of those in the immediate neighborhood of the settlements, owing to the fear of Indians, adds: "Mines of great value are known to exist within the Indian country. Reports made by the few fearless adventurers who have penetrated into that terra incognita confirm the traditions handed down from the Padres, of the great wealth contained within the bosoms of these rugged Indian-guarded hills. But they will continue to lay, unprospected and unworked, until a sufficient military force is at hand to protect and assist in protecting the miners required to their proper development."

The schooner William Irelan, which arrived from the Colorado river on Nov. 17th, brought seventy tons of very rich copper ore from the Planet mine, on William's fork. There is another vessel with a cargo of ore from the same mine. Colorado river ores average nearly forty per cent. They sell here at \$110 to \$120 per ton, and cost about \$50 per ton on the wharf, \$20 of this being for freight. The Ashley Company have recently struck a very rich lode of ore in their drift. The Mineral Hill Company's smelting works are nearly completed.

COLORADO.

From the Colorado *Journal* of November 6th: The Smith & Palmer company are ship-

ping at the rate of 200 ounces per month. They have had a retort cast in turn out from 1,500 to 2,000 ounces of gold, which will doubtless be sent to the Exposition at Paris. . . . Mr. J. E. Leper has got his Keith mill at Empire started. The machinery works well. It has not yet been running long enough to make a clean up. . . . Richard Irwin has discovered a big argentiferous galena lode and called it Hollister. It crops out for nearly 2,000 feet in length, is eight feet between walls, with twelve inches of mineral almost on the surface. . . . Mr. Fitzpatrick's clean-up on October 30th weighed 211 ounces. . . . The American Flag company have raised the water out of their shaft and are now taking out a very fine quality of ore—iron pyrites and galena.

The Elk Company at Empire have been doing satisfactorily well during the last five or six weeks. They have gone down something like one hundred feet, and have struck iron, appearing to hear north instead of across the face of the mountain. . . . The Hopa Company are running their mill on poor ore and tailings, mixed, and are more than paying expenses. Their ore assays \$15 a ton as they take it out—\$120 a cord—and they get from \$95 to \$110 from it. They have let a contract to sink 100 feet in their deepest shaft, it already being 450 feet deep. . . . Hasbrouck & Co. have their tunnel driven at Argentine, 93 feet. At 103 feet they design to stop for the winter. Mr. Rothpletz will continue work on Quail creek through the season.

A new arrangement for amalgamating has been found to answer better than the shaking tables at the Keith Mill (Mammoth), saving six per cent. more gold. It consists of a set of three dolly-tubs discharging one into the other, then stationary, plain tables, like the old battery tables, and finally from seven to twelve feet length of blankets.

Mr. Ira Austin is opening a coal bank on Coal creek, about eighteen miles from Denver. He sunk a shaft thirty feet and is running south into a huge bluff, the vein now eleven feet thick, then a foot of mixed rock and very hard coal, then three more feet of coal, and growing gradually thicker as they go south. The lower three feet of the bed is almost as hard as anthracite, and the coal grows harder the further they get in. It sells at the mouth of the shaft for \$5 a ton, and the demand exceeds the supply.

From the Denver *News* of Nov. 7th: From present indications, the valuable and extensive discoveries made in the Snake River mining region, the past season, will induce a heavy emigration to that country in the coming spring. Miners returning from there for the winter are highly elated, and consider their fortunes sure. The great yield by assays made from lodes discovered there this year, is certainly very promising, and when we add to this the fact that these assays, running as high as \$2,800 per ton, were made only from surface quartz, there being no shaft over twenty feet in depth, all must admit that the hopes of the miners are well founded. The success, too, of the smelting works of Messrs. Whitney & Whiting adds to the strength and certainty of the belief in the glorious future of these mines. The great advantage of working the mines in this region lies in the ease with which tunnels can be driven into the steep mountain sides, striking lodes at a depth of thousands of feet from the surface without great outlay.

BRITISH COLUMBIA.

The *Oregonian* learns that about one thousand men have been in the mines of French Creek, McCulloch's Creek, and Carney's Creek, and the bars of the Columbia between Gold and Carney's creeks. Very few men have made expenses. The only creeks that have paid anything worth speaking of are French and McCulloch's, which are tributaries of Gold Creek. On all the streams upon which gold has been discovered, the bedrock is so deep that it cannot be reached without better appliances for protection against water. The number of men there a month ago was not probably more than two hundred and fifty. A few men will winter there, and perhaps another season be able to reach the bedrock of their claims.

BACKWARD CAPITALISTS.—The *Calaveras Chronicle* says: For a season the capital of the country was diverted to the silver ledges of Nevada, but there has been a reaction, and our moneyed men have become convinced that we have richer and more enduring mines on this side of the mountains than they have on the other. Capitalists stand ready to purchase a lead the moment it has been prospected sufficiently to demonstrate that it contains gold in paying quantities, but are loth to advance a few dollars to develop them. The man who is worth his thousands thinks that miners can afford to put in months of their time, and expend every cent they can possibly raise, to determine whether a quartz lode is valuable or not, and until the character of a mine is fully established, they obstinately refuse to assist the prospector.

Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

O. W. M. SMITH,..... W. B. EWER,..... A. T. DEWEY.
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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.
 Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
 SAN FRANCISCO, Jan 11th, 1866.

San Francisco:

Saturday Morning, Dec. 1, 1866.

NOTICES TO CORRESPONDENTS.

S. P.—THE MINERAL, HUDSONITE? (1) recently so denominated by some New York mineralogists, will require to have its name changed to some other. For this purpose we would suggest that "ARGYLITE" be substituted—a similar mineral, both as respects its physical aspect and composition, having been first found in Argyleshire, Scotland, as described in our former notice of this substance. The Argyle, like the New York mineral, was of a very variable composition. When we previously noticed it, we accepted, without examination, the term applied by New York mineralogists, never suspecting that the title had previously been applied to another and quite different mineral, derived from the same locality. The latter fact ought to have been known to those who have thus misapplied the title, especially as they dwell in the vicinity of the place where the mineral was obtained to which the term *Hudsonite* was originally applied. *Hudsonite*, as described by various mineralogists, is a variety of pyroxene or angite, in which a considerable part of the silica is replaced by alumina. The present is one of the innumerable instances of the inconveniences which are continually occurring, from the custom of giving arbitrary names to minerals, in place of classing them under generic titles, and sub-classing them by names appropriate to their chemical composition. An improved order of nomenclature in mineralogy is imperatively required, in order to remove it from the empirical condition under which it has so long existed.

P. F., BUTTE COUNTY—THE DIAMOND AND THE TOPAZ.—Although your inquiry relates only to the former, we have appended a notice of the latter gem also, for reasons that will be easily gathered by a perusal of what follows. Professor Blake, in his notice of California minerals, mentions that the diamond has been found at Cherokee Flat, ten miles from Oroville, in well formed, highly modified crystals, from one-eighth to three-sixteenths of an inch in diameter, and generally of a pale straw-color; crystallization, tetrahedral. Considerable excitement existed some time ago respecting these rare gems being found in Idaho, some large specimens from that locality having, it is said, obtained very high prices in New York. There is no great improbability in either or both facts having occurred; though we are inclined to suspect that, in many cases, topazes are mistaken for diamonds; to which latter it not only approximates the nearest in hardness of any other gem, but also in brilliancy. These facts will be better appreciated, when we relate that we have now in our possession, for the inspection of the curious, a white topaz, brilliant cut, which, prior to its coming into the possession of the present owner, was one of several which was pledged to a London pawnbroker as a genuine brilliant, and subsequently formed the subject of investigation in one of the London Police courts. An inexperienced person would, unhesitatingly, pronounce the topaz in our temporary possession as a genuine brilliant. For the purpose of comparison, the owner of the topaz alluded to has also furnished us with one that is rough and unpolished. We are informed by the same gentleman, that at the London Exhibition of 1851, he had the opportunity of inspecting, along with Professor Tennant and Sir David Brewster, a very large white topaz crystal, rumored to have been obtained in California. The party alluded to, has, however, been much disappointed at never yet meeting with a topaz or any mineral here containing fluorine as one of its constituents. From their peculiar limpidity, topaz pebbles have been denominated by the French *gouttes d'eau*—drops of water. Topaz may be easily distinguished from the diamond, in consequence of cleaving into tables parallel with the base of the crystal.

PETROLEUM AND SPERM OIL AS LUBRICATORS.

An interesting series of experiments has recently been made on the Boston and Worcester and Boston and Maine railroads to determine the relative qualities and cost between petroleum and sperm oil as lubricators. The results are given as follows:

They put a railway carriage on each line in perfect order, calipered the journals and weighed the brasses, and used only sperm on one truck and only petroleum on the other, of each carriage. After running the carriage 19,000 miles, all the axles and brasses were found in good order, with equal wear all round, and 20 per cent. less oil had been used from the petroleum cask. They now use petroleum exclusively in the Lightner boxes of their carriages.

This oil, of the best quality, fully equal to pure sperm oil at the least, and probably better for carriage axles, can now be bought for about fifty cents per gallon, by the barrel, in New York; while sperm oil of a character to do the same work is worth over \$2 per gallon. It is said that the present daily supply of lubricating petroleum from Western Virginia alone is not less than 1,000 barrels per day. There is a large demand for the article for export, chiefly to England. Were the supply of petroleum to be cut off at the present time, it would work a most serious and damaging injury to the railroad interests and to heavy machine operations generally. The discovery of this quality of petroleum has been most opportune; indeed it is difficult to say from whence any adequate and sufficient cheap substitute could be derived. It is a matter of no little interest to know, as elsewhere shown in the present issue, that the supply is unlimited, and will probably continue to be so for all coming time. Sperm oil will also always have a market, and be maintained at a high price by the demand for it in various ways where petroleum and other oils cannot be used, particularly in woolen manufacture.

ERICSSON AND HIS INVENTION.—This distinguished engineer has recently been presented with the Rumford medal, as a testimony of the high estimation in which his mechanical genius is held. The medal was presented by Prof. Hosford, of Harvard University, who took that occasion to give a resume of his inventions and valuable discoveries. Ericsson built the first successful propeller having all its machinery below the water line—the Francis B. Ogden—which was rejected by the Lords of the Admiralty of England, on the ground that "it would be impossible to steer a vessel where the propelling power was so near the rudder." Mr. Ericsson came to this country, bringing the machinery of the Robert F. Stockton, and shortly after built for the Government the screw steamer Princeton. The idea of the monitor class of war vessels was conceived by Ericsson in 1854, when he submitted to the Emperor Napoleon a plan for such ships. Capt. Coles, of the English navy, detests his first idea in 1860. Capt. Ericsson is well known for his hot air engines, but his crowning glory is the total change in war ships, inaugurated by his celebrated Monitor.

MARIPOSA QUARTZ SPECIMENS.—Mr. Hunt who has just returned from a visit to the Mariposa county mines, has exhibited to us a magnificent specimen of quartz from the Josephine mine, on the Fremont estate. It is of triangular form, about eight inches in its greatest length, and is completely covered on one side with a spongy layer of gold, which is apparently about one-fourth of an inch thick. It was said to be a portion of a slab of about four feet long, which split in the middle, showing, in apposition, two surfaces of the kind described.

ARTICLES from California intended for the Paris Exposition will be too late for the Government vessels from New York, unless forwarded by the San Francisco steamer of December 10th, at the latest. Mineral specimens should be sent at once.

Electrical Phenomena.

EDITORS MINING AND SCIENTIFIC PRESS: I wish to call your attention to the fact that the *Alta* did not first promulgate the "modern" theory of earthquakes.* I wish to call your attention to the fact that the writer has previously enunciated the idea (in the *Alta* and San Jose Mercury) that earthquakes are occasioned by a sudden equalization of two currents of electricity—one being negative and the other positive. That by reason of the sun's attraction upon the earth's mass (the sun being positively electrical), a current of negative electricity is constantly flowing southwardly over and through the earth's surface. When this negative, sun-seeking current reaches the south pole, it assumes the positive or statical condition of the positive sun, and is therefore repelled, or driven northward; and as it cannot return by the path over which it came, it flows to the north, above the earth's atmosphere, and we can then see it returning to the arctic zone in the phenomenon of Aurora Borealis.

I wish to call your attention to the fact that I maintained, in the above mentioned journals, that the dry, vaporless atmosphere is a non-conductor of electricity; that, by reason of clouds and vapors floating into this dry non-conductor, a medium of conduction is established, and the upper and lower currents seek an equilibrium, and produce a local disturbance of the earth's surface, which we call earthquake. To demonstrate the proposition that an earthquake is nothing but an electrical shock, precisely like a flash of lightning, I constructed a machine to determine the fact. During the past seven months this machine has marked ten shocks of the earth accurately, and has established beyond a cavil that the electrical hypothesis is at least entitled to respectful consideration.

The objection which you urge in your issue of the 17th instant, that the velocity of electricity is "five hundred thousand times the speed at which the earthquake-wave travels," is easily set aside. As above stated, an earthquake is merely a local disturbance at any point of the earth's surface, occasioned by the sudden equalization of the positive and negative, or upper and lower currents of electricity. The oscillatory or "wave motion" of the earthquake is merely momentum, imparted to the earth's material by the sudden local concussion. The radius or extent of the wave will be in exact proportion to the violence of the local disturbance. Yours respectfully,

W. FRANK STEWART.

REMARKS.—We cheerfully insert the above communication from Mr. Stewart, and shall be glad at all times to receive from him any well digested synopsis which he may deem calculated to illustrate the truth of his theory. Mr. S. will, however, please to bear in remembrance that, in the present state of science, no opinion is considered as even tolerably established until all anomalous phenomena are explained. The value of the machine alluded to by Mr. Stewart, and the inference to be drawn from its action, will depend much upon the soundness of the principles on which it is based. If founded on a correct theory, and regular and accurate observations noted, there can be no doubt but such a machine may become a valuable means of illustrating any coincidences which may occur between earthquakes and electric disturbances. To be of practical use, however, it will be indispensably requisite that all phenomena which tell against the electrical theory of earthquakes (if such should occur), should be recorded with the utmost fidelity. We presume that Mr. S. would explain away the effect of our allusion to the difference of speed at which electricity and the earthquake wave travels by the inferior conductive power of the earth's crust as a medium. Fully admitting that fact, we must, however, remark that in ordinary telegraphy, the theory is that the return current between the two distant stations is conveyed through the medium of the earth's crust, and at a rate greatly exceeding that of the motion occasioned by the earthquake waves.

* See T. F. Mackintosh's "Electrical Theory of the Universe."

DOUBTFUL.—It is said that an Austrian chemist has discovered a method of inclosing electricity in glass capsules, which may be enclosed in steel cases, to be used as balls for rifles, and that such projectiles when fired into a fleshy body, as of an enemy, in battle, will explode by the impact with sufficient force to kill. They would be much more likely to kill at the other end, by exploding in the gun barrel at the instant of the discharge. Altogether the thing looks rather fishy.

THE PARIS EXPOSITION.

The Paris Exposition Committee are making active exertions to secure a proper representation of California at the coming World's Fair. Collections are constantly coming in, and the committee are holding frequent meetings. Prof. Blake, the State Commissioner, is also making active personal efforts in the same direction. At a late meeting of the Committee he submitted, through it, the following address to the citizens at large, and to the miners in particular:

The Commissioner of the State of California to the Universal Exposition at Paris in 1867, submits the following, through the World's Fair Committee, to the People of the State:

Presuming that the magnitude and importance of this coming Exhibition are understood and admitted, and that we appreciate the opportunity it offers to California to make its resources known to the world, the question arises how shall we avail ourselves of the opportunity and derive the greatest advantage from it?

Of the Commissioners appointed by the President and Senate to represent the United States, but one is from the Pacific coast—the exception being from Oregon—and it is believed that neither of them is personally familiar with our State and its resources. The responsibility of the representation and elucidation of our resources will therefore naturally and inevitably fall upon your Commissioner. His presence there will not be a mere matter of form, he will not be a mere spectator, he will by force of circumstances occupy a position different from that of Commissioners from other States, whose productions and interests are more fully blended and inseparable than ours are or can be with theirs. He will be expected to be present before the opening of the Exhibition to attend to the interests of California, to direct and assist in arranging her products, and to constantly give information concerning them.

I propose, in the first place, in addition to what has already been done, to secure a systematic and thorough representation of our mines and minerals by personal exertion. To this end I take from five hundred to one thousand characteristic specimens from my collections, and will shortly visit and collect at Grass Valley and other prominent mining sections. It is only by personal exertions that a proper collection can be made. In order to call the attention of mine-owners to this matter, and secure their co-operation, I will issue a circular, stating what is required, and correspond directly with those mines I cannot visit.

The Secretary of the State Agricultural Society will send a very full collection of our agricultural products, so that this branch of our interests will not be neglected. On reaching Paris, these collections will be properly arranged and displayed to the best advantage. If provided with the means, I then propose—

First—To prepare and publish a small volume, setting forth in plain, direct language, the nature and abundance of our resources, and the advantages we can offer to the immigrant and to capital. In such a volume, our climate, soil and agricultural productions would be described; the quantity and price of our public lands, the cost of living, rates of wages, and the ways of getting to the State would be made known. The statistics of the production of our prominent mines would be given; in short, the volume would include just such information as the capitalists and masses of Europe would most desire for an intelligent comprehension of our condition. This volume should be printed in English, French and German, and be judiciously distributed.

Second—To give public addresses or lectures in French as well as in English in the great hall to be provided for that purpose, and to illustrate these by maps and drawings and reference to our collections.

Third—I hope not only to give but to receive information of value and importance to the various interests of our State; such information, for example, as may enable us to improve in the metallurgical and mechanical treatment of our ores, in the manufacture of wines, oils, and in mechanical arts and processes generally.

The circular referred to is as follows:

TO THE MINE-OWNERS OF CALIFORNIA AND ADJOINING STATES.

In the coming Universal Exposition at Paris the mines and mineral resources of Europe will be thoroughly and systematically represented by series of specimens collected and classified by the members of the various corps of mining engineers. The specimens will be in suites, representing all varieties of the ores and all the various stages of the processes for the extraction of the metals. The copper and lead ore, for example, will be shown in their various degrees of fineness, and be accompanied by samples of the matte, regulus, and the slugs, together with the fluxes used. The specimens will be neatly trimmed, so as to be as nearly as possible of uniform size, so that when arranged

in cases the best and most pleasing effect will be produced. California, and the Pacific coast generally, should be fully represented in a similar manner. We only need to make a fair exhibit of our various metals and minerals to carry conviction, on sight, to all visitors at the Exhibition of our vast and varied mineral resources. We must be careful that in point of excellence of specimens, in the completeness of illustrative series, and in the scientific and effective arrangement of the whole, our exhibition of minerals shall do justice to the magnificence of our veins and to our appreciation of their character and value. How is this to be accomplished? Specimens selected at random will not answer the purpose. One here and another there, although better than nothing, will not give us the illustrative series that we need. Each mine of importance should be represented by from six to twelve specimens, nearly uniform in size, and with clear, fresh surfaces. These should include the chief varieties of ore and pieces of the foot and hanging walls.

The Commissioner is aware, from past experience in forming collections, that specimens of the desired character are rarely obtained, except by personal application and exertion at the localities. He therefore proposes to commence a collection by taking a portion of what he has already collected for his own cabinet, which, through the uniform liberality and courtesy of the miners of the State, is already large, and to extend the collection by again personally visiting the northern mines, Grass Valley, and the line of claims upon the "Mother Lode," southward toward Mariposa. He relies upon his numerous friends to assist him in this work, and hopes to receive from such mines as he has not already visited full illustrative specimens.

Specimens in general should not be larger than the two fists; each should be well wrapped in paper, and have a distinct label placed inside. Samples of blanket sands, the cleaned sulphurets, and of the tailings should accompany the quartz specimens; one pound of each is sufficient.

Persons sending specimens will please state distinctly what disposition they wish to have made of them at the close of the Exhibition, and as no funds have been provided for the payment of freight to this city, parties will please prepay, or first correspond with the Commissioner on the subject.

WM. P. BLAKE, Commissioner.

CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

Mr. JOHN WASSON, of the Owyhee *Avalanche*, of Silver City, Idaho, has contributed a valuable lot of specimens from the Poorman mine, Idaho. No. 110 is a very fine specimen, carrying both sulphurets and chloride of silver, and showing considerable free gold. This specimen is somewhat remarkable in its characteristics, containing a mineral piercing the general mass, in various directions, and in small stegastic forms—probably a sulphate of lime. No. 111 consists chiefly of sulphide of silver, and will probably yield about 60 per cent. of pure silver. No. 112 contains a small crystal of pure chloride of silver, of a violet blue, and of a waxy consistency, such as may be easily indented with the finger nail. A somewhat brittle variety of this description of mineral often occurs in this mine in large sheets, several inches across, either way, and not thicker than ordinary window glass. A dark red variety of ruby silver ore, known as "pyrrargyrite," also occurs in this mine. This mineral contains a large percentage of antimony.

Mr. Wasson has also contributed several specimens of ore from Flint district, some eight miles south of the Poorman, which consists of an antimonial sulphuret, very much resembling that class of ore found in the Humboldt region. No. 113 is a sample of this ore, unchanged, and evidently taken from a considerable depth in the mine. No. 114 appears to be the same class of ore from the surface, very much decomposed and quite fragile in character. This we understand to be a new district, in which explorations have but recently commenced. No. 115 is from a ledge recently opened about 100 feet east of and parallel with the Poorman. We are not aware that any examination has been made to ascertain the character of the vein. The specimen before us would pass for an ordinary sample of California gold-bearing quartz containing a small percentage of sulphurets.

MINERALOGICAL NOTICES.

At the last meeting of the California Academy of Sciences, Professor Blake submitted the following interesting mineralogical notices:

KERAROVYRITE—Chloride of silver, in remarkably fine specimens, occurs in the Poorman lode, Idaho, associated with *proustite* (light red silver ore), native silver and native gold. Sheets of the chloride are taken out of the soft clay of the vein, and are from one-eighth to one-quarter of an inch in thickness. It is also found in irregular massive aggregations of crystals, in cubes, without any modification, and over one-eighth of an inch square. The color of my specimens is brown, passing into violet blue in some portions.

PROUSTITE—The ruby silver, which occurs with the chloride in the Poorman lode, as above, is often found in masses of several ounces or even pounds in weight, and it is reported to be occasionally seen in beautiful crystals, but none have yet come under my observation.

COPPER GLANCE, RED OXYD OF COPPER, NATIVE COPPER—These specimens are found together in the Red Cup claim, Klamath county, in serpentine. The metallic copper is seen in points throughout the massive sulphuret, and is sometimes enveloped in red oxyd. Both copper and oxyd are most abundant in the outer portions of the ore as found, and they are apparently formed by the gradual decomposition of the sulphurets.

DANAITE—A cobaltic variety of mispickel, is found associated with iron and copper pyrites, in Excelsior district, Nevada county, California. It occurs in distinct, well formed, brilliant crystals, of a tin-white color, and about a quarter of an inch in diameter. They are modified nearly as in figure 289 of Dana's *Mineralogy*. This mineral gives cobalt reactions before the blow-pipe, and appears to contain a large quantity of this metal. The ore is said to contain nickel also, and is being mined for shipment.

CINNABAR IN CALCITE—Cinnabar of a beautiful vermilion color is found in an unusual form in Idaho, being abundantly spread throughout a gangue of massive, compact limestone or marble. It is so compact and homogeneous, that specimens may be cut and polished like marble. There are no evidences in the ore that I have received, of the presence of other minerals, not even of quartz.

A New Mode for Working Silver Ores.

Mr. A. Hunter, the inventor of Hunter's Concentrator, has presented for investigation the following cheap mode for working sulphureted silver ores, which is certainly worthy of careful consideration by all persons engaged in silver mining. That quite too large a percentage of loss is unavoidable from the present mode of working low-grade ores, is universally acknowledged. The only reason assigned for continuing that wasteful mode is the great cost of submitting the entire mass of the ores to the fire process. By a cheap method of concentration, by which only the sulphurets need be roasted, this expense must be materially reduced and a large increased gain realized. The economy of the idea rests wholly in the cost and efficiency of the *concentrators*. Will not some of our enterprising silver workers try Mr. Hunter's plan, and report results? We have long had confidence in such a mode of working both silver and gold ores. It is now being generally adopted by our gold miners, much to their advantage. We see no reason why it may not be made equally as serviceable in silver mining. It is worth a trial at all events. Mr. Hunter says:

For reducing the ore, use the ordinary battery and a No. 6 screen; concentrate in front of the battery, and as the sand passes off from the tables pass it over a fine screen of No. 80 or 6,400 meshes to the square inch. The water and slum pass through the screen, and are run into tanks and settled. The only machinery necessary for the above process is the ordinary battery, concentrators, and a few amalgamators for working the slum. The sulphurets of ordinary silver ores, when concentrated, will average about five per cent., or 100 tons will give five tons of sulphurets. The following is about an average cost of reducing,

concentrating and working the sulphurets and slum:

For reducing and concentrating 100 tons of ore at \$5 per ton.....\$500 00
For roasting and working five tons of sulphurets at \$40 per ton.....200 00
For working the slum.....50 00
For working 100 tons of ore.....\$550 00

Making \$8 per ton for extracting at least 80 per cent. of the silver contained in the ore as per fire assay, and scarcely any waste of quick-silver. By the ordinary process now in use for low-grade ores, extracting only about 60 per cent. of the fire assay, the cost for working is about \$15 per ton; and for high-grade ores, where 80 per cent. is guaranteed from the fire assay, the cost is from \$35 to \$45 per ton. The difference of the cost of working and the cost of machinery is easily calculated, and the thousands of tons of low-grade ore that would not pay to work, will prove highly remunerative for the capital and labor expended by the use of the above process.

LIST OF OFFICERS OF CORPORATIONS AND MINING COMPANIES.

[PUBLISHED IN THE FIRST ISSUE OF EACH MONTH.]

[Below we give the date of recent meetings held in this city, and the names of officers chosen or appointed. Every bona-fide company is invited to send us the result of their election, to be thus put on record, gratuitously, with any other facts of general interest.]

CONFIDENCE S. M. Co.—November 9th. Trustees: George W. Stewart, Wm. Sarryhue, Fred. Collier, Wm. L. Palmer, S. B. Whipple. President, Geo. W. Stewart; Vice President, S. B. Whipple; Secretary and Treasurer, R. Wegener; Superintendent, John Nelson.

GOLD QUARRY M. Co.—November 23. Trustees: A. C. Penchy; D. Maynard; Geo. D. Roberts, E. Wertheman, Jos. Freeborn.

HOPE GRAVEL M. Co.—November 15. Trustees: H. J. Paine, George E. Hinckley, W. A. Bateman, Lewis Teese, Jr.; C. W. Ham. President, H. J. Paine; Secretary, David Wilder; Treasurer, Geo. E. Hinckley; Superintendent, Samuel Locke.

MOUNT TENABO S. M. Co.—November 22. Trustees: Lucius A. Booth, Joseph Sedgley, J. Preston Moore, Thos. Hardy, Jamee Dows. President, Joseph Sedgley; Secretary, R. N. Van Brunt.

RECENT INCORPORATIONS.

SAN JOAQUIN VALLEY CANAL Co.—Fresno, Merced, Stanislaus and San Joaquin counties. Capital stock, \$1,000,000; 10,000 shares; \$100 per share. Trustees: William B. Carr, Wm. H. Graves, Benj. H. Dyer. Nov. 14.

SIERRA MAMMOTH M. Co.—Sierra county. Capital stock, \$300,000; 30 shares; \$10,000 per share. Trustees: Joseph Clark, Alexander E. O'Neal, George Hearst. November 16.

REESE RIVER MINES.—We would call attention to our mining summary under the head of Reese River. The *Reveille* has made, from time to time, an eloquent appeal to capitalists, urging with force upon the public the extraordinary wealth of the newer districts in southern Nevada. We can only make brief extracts.

Air Pump for Sale.—One of Tate's Double-Action Air Pumps, in prime order, can be had at a bargain, by applying soon at this office, or to Jones Reacher, mathematical instrument maker, 522 Montgomery street. 21v13-9p

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10

TOWNE & BACON, Print—

Stock Certificates, Assessment Receipt Books, Transfer Journals, Circulars, Hand Bills, Cards, Billheads,

And every kind of Job Work that may be desired. A NEW ARTICLE OF TAGS FOR GROCERS' USE. 16v12 536 Clay street, opposite Leldesdorf.

OIL! OIL!! OIL!!!

—OUR—

MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

Dell, Cranna & Co.,

511 1-2 and 513 Front street, San Francisco

IMPORTERS OF

COAL OILS AND LAMP STOCK.

21v12-3m9p

NATIONAL

Insurance Company!

OF SAN FRANCISCO.

Office, No. 408 Montgomery street, (Near California).

MARINE INSURANCE—Upon Hulls, Cargoes, Treasure, Commissions, Profits, and other subjects of Marine Insurance, to and from all Ports in the world, including Inland Risks.

FIRE INSURANCE—Upon Buildings, Merchandise, Furniture, Rents, Vessels in Port and their Cargoes, and other Insurable Property.

Capital (Paid up) - - - \$1,000,000.

Losses promptly adjusted and paid in United States Gold Coin.

WILLIAM PIERCE, President. D. W. C. THOMPSON, Vice-President.
W. W. WIGGINS, Secretary. A. NOYES, Marine Officer.
EXECUTIVE COMMITTEE:
Albert Dibblee, Chairman, Joseph A. Bonahue,
R. G. Sneath, John G. Bray, 21v13-4m
Abram Block.

HUNTER'S

IMPROVED CONCENTRATOR.

THE INVENTOR OF THE ABOVE RECENTLY IMPROVED Machine, is now prepared to take contracts for concentrating gold or silver ores on shares, receiving a certain per cent. of the sulphurets as may be agreed upon; and will guarantee twenty per cent. more sulphurets than from any rocker or concentrator built on the Pacific coast, saving at least ninety per cent. of the sulphurets contained in the ore. The sulphurets, if desired for shipping, will contain less than one per cent. of sand.

Persons who have sulphureted ores will do well to have their sulphurets saved; as the many failures in mining can often be attributed to the waste of sulphurets. For particulars, address

ANDREW HUNTER, Inventor, San Francisco.

ROWLAND, WALKER & CO.,

Grocers,

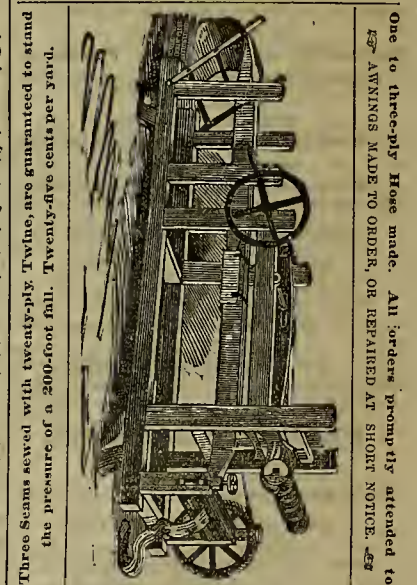
Nos. 516 and 518 Washington street,

Are offering a complete assortment of GROCERIES at the LOWEST RATES. Quality guaranteed.

Goods delivered at any point within the city limits. 21v13-1y

PATENT HYDRAULIC HOSE SEWING

By S. HOWARD,



No. 326 DAVIS STREET, San Francisco. 21v13-3m

STRONG & CO'S

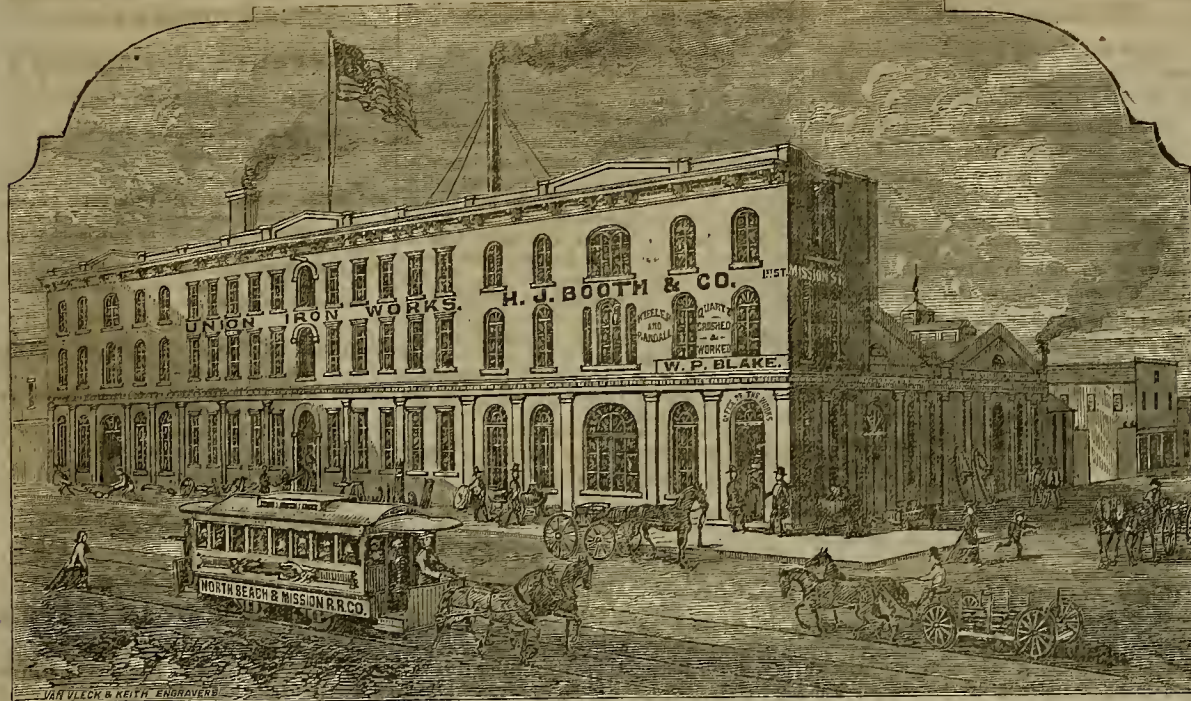
CELEBRATED UNION PAN!

A fast Grinder and thorough Amalgamator; has double Mullers, Rolling Stones and reverse action.

Millmen and others are respectfully invited to examine this Pan, before purchasing others, as it gives the best satisfaction. Can be seen in operation daily at the San Francisco Foundry, Fremont street, near Mission. Ores, in lots not exceeding 2,000 pounds, tested by 21v13 G. W. STRONG, Assayer.

The People's Friend!

Perry Davis' Vegetable Pain Killer, THE GREATEST FAMILY MEDICINE OF THE AGE! Taken Internally, it cures sudden colds, coughs, etc., weak stomach, general debility, nursery sore mouth, canker, liver complaint, dyspepsia or indigestion, cramp and pain in the stomach, bowel complaint, pilgrims' colic, Asiatic cholera, diarrhoea and dysentery. APPLIED EXTERNALLY, cures felons, boils and old sores, severe burns and scalds, cuts, bruises and sprains, swollen joints, ringworm and tetter, broken breasts, frost-bitten feet and chilblains, tooth-ache, pain in the face, neuralgia and rheumatism. It is a sure remedy for Ague and Chills and Fever. 21v13-1t



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hay, Rags, Screw and Drop Presses, Coining Machinery, File Drivers, Bark and Salt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS.—Locomotive, Fire, Tubular, Upright, Cylindrical and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curve Pan, Zenos' Wheeler's Improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Astra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Grinding Batteries, or machines with the latest improvements, every variety of Stumps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash price.

H. J. BOOTH. IRVING M. SCOTT
24V12 699, W. PRESCOTT. H. J. BOOTH & CO.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight;
without excessive friction, and never
gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any
Wheel in use. There are over 1,000 running,
giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz
mining, and being conversant with all the improvements,
either in Mining or Milling, we are prepared to furnish, at
the shortest notice, the most perfect machinery for reduc-
ing ores, or saving either gold or silver. 13V10qy-1f

WILLAMETTE IRON WORKS, PORTLAND, OREGON.

Steam Engines, Boilers,
SAW AND CRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER
WORK, AND BLACKSMITHING IN GENERAL.
Corner North-Front and E streets,
18V13-ly One block north of Couch's Wharf

UNION IRON WORKS, Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired
with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old cylinders, manufactured
to order.

Front Street, between N and O streets,
14V11 SACRAMENTO CITY

JOHN WRIGHT,

Pick Manufacturer,

No. 229 Fremont street, between Howard and Folsom,
SAN FRANCISCO.

Has always on hand a general assortment of PICKS for
Quartz and Surface Mining.
Particular attention is called to his RAISED EYE
QUARTZ PICK, which is especially adapted to Quartz Min-
ing, and guaranteed to give good satisfaction. 12V13-y

GEORGE T. PRACY, MACHINE WORKS,

Nos 109 and 111 Mission street, between Main and Spar,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND
REPAIRED.

Special attention paid to Repairing. 24V12 24V12

T. G. BORMING. J. F. FISHER.

PACIFIC FILE FACTORY

No. 53 Beale Street,
Between Market and Mission streets, San Francisco.

FILES RECUT AND WARRANTED AS GOOD AS NEW,
or no charge. The only establishment in the State.
We also manufacture Reapers and Mower Sections.
8V13-ly DUNING & FISHER, Prop'rs.

LEWIS COFFEY. J. S. HILDON
Steam Boiler & Sheet Iron Works.

THE only exclusively Roller Making establishment in the
Pacific Coast owned and conducted by Practical Roller
Makers. All orders for New Work and the repairing of Old
Work, executed as ordered, and warranted as to quality.
Old Stand, corner of Bush and Market streets, opposite
Oriental Hotel, San Francisco.

GLOBE

Foundry and Machine Shop,

STOCKTON, CAL.

KEEP, BLAKE & CO.,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam
Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Iron
House Fronts, Iron Fencing, Balcony Railings, etc.,
at San Francisco prices. Orders solicited
13V13-ly and promptly executed.

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST RE-
ECTED, in this city, on Fourteenth street, near the machine
shop of the San Jose Railroad, a large establishment for the
purpose of forging and working in wrought iron. Our ham-
mer is the largest upon this coast, and we are prepared to
manufacture, at short notice, all kinds of heavy forgings,
car axles, shafts, steamboat cranks, piston-rods, wagon
axles, and other similar work. This is the first general
shop of the kind erected in this State, and we solicit the
patronage of the public. All orders executed at reasonable
rates, and with promptness and satisfaction. 12V12-3m

F. S. BACON. LINAS STEWART.
BACON & STEWART,
PRACTICAL MACHINISTS,
No. 51 Beale street, San Francisco.

All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING PRESS work.
All jobs entrusted to us will be attended to with prompt-
ness and on reasonable terms. The patronage of Printers
is respectfully solicited. 12V13-ly

HANSCOM & CO.,

17 PENDERGAST,
H. S. SMITH. W. W. HANSCOM.

Etna Iron Works!

Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE

STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS,
Dunbar's Improved Self-Adjusting

PISTON PACKING,
Now so extensively used in the East and in this State. Re-
quires no springs or screws; is always steam-tight; without
excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and
Amalgamator,
Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,
Giving greater power, at lower cost, than any wheel in use.
Send for one of our circulars, giving full tables.
All Wheels warranted to give the power as set forth, or
the money will be refunded.

Sole makers for this coast of the "Pendergast
White Iron Stamp Shoes and Dies.
None genuine unless obtained from us. Every one war-
ranted.

Patented Machinery of all kinds will be furnished by us
at market prices. Particular attention given to drawings
and specifications of machinery, which will be made to
order. The patronage of the public is respectfully solicited.
12V12

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Brodie's
Improved Crusher, Mining Pumps,
Amalgamators, and all kinds
of Machinery.

Nos 45, 47 and 49 First street, between Market and Mis-
sion street, San Francisco. 24V12

NEPTUNE IRON WORKS,

Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MARINE

Locomotive,

And all kinds of

HIGH PRESSURE

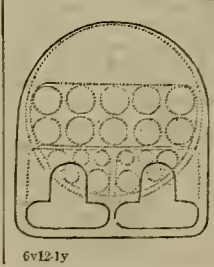
Steam Boilers

MADE.

All Boilers guaranteed and
tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.

All kinds of Sheet Iron and
Water Pipe, Coal Oil
Stills, Wrought Iron
Worms, etc., etc.
Manufactured to Order.

Old Boilers Repaired
D. CAMERON.



A NEW BLANKET PROCESS.—A somewhat
novel system of concentrating with blankets
has recently been introduced by Mr. Thomas
Coogh, of Falmouth, England, which is de-
scribed as follows:

The chief feature in the invention consists in
the use of brushes passing over the blankets, to
insure the regular distribution of the sands or
slimes in course of treatment. The sands are
concentrated on blankets or skins nailed on an
inclined table, supported upon trunnions, one
at the head and one at the foot. The head
may be raised or lowered at pleasure, according
to the gravity of the sands under treatment.
An endless chain, carrying a series of brushes,
revolves continuously above the table, the
brushes preventing the light weight from set-
tling on the skins and stopping the fine parti-
cles of gold from passing off with the water.
When the blankets or skins become filled with
sand, the head of the table is lowered to a
horizontal position, and the table is then turned
over, so that the concentrated sand may be
washed off into the trough beneath. The time
required for turning the table, washing it and
re-turning it ready to commence washing, is in-
appreciable. Mr. Coogh has also invented an
improvement upon the barrel amalgamator,
which consists in counting four or any other
equal number of barrels endwise upon an axis,
so that balancing each other, they can be
turned with great facility. The amalgamation
is effected in the ordinary way, and arrange-
ments are made for filling the barrels through a
hopper, and discharging them by a plug.

THE CONSTITUTION OF SIRIUS.—Father
Secchi has sent to the Academy of Sciences
of Paris an account of the spectra of some
stars, as recently seen by him in a new spec-
trometer by Merz, with a prism by Hoffman,
of Paris. A drawing of the spectrum of
an Orionis accompanied the communication.
The spectrum of Sirius is described by the
learned author as resembling that of sulphur.

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS OF Brass, Composition, Zinc, and Rabbit Metal
Castings, Brass Ship Work of all kinds, Spikes, Sheathing
Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and
Gongs of superior tone. All kinds of Gaskets and Valves, Hy-
draulic Pipes and Nozzles, and Hose Couplings and Con-
nections of all sizes and patterns, furnished with dispatch.

PRICES MODERATE. 24V12
V. KINGWELL 12V13-ly J. H. WEED.

SAN FRANCISCO

Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of

Marine and Stationary Engines
Quartz Machinery, Saw, Flour and Sugar Mills, Mining
Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Cider, Cotton and Tobacco Presses
of the latest Improved Patterns.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and
Dies warranted to be made of the best white iron.
Dunbar's Improved Self-Adjusting Piston-
Packing, requires no springs or screws; is always steam-
tight; without excessive friction, and never gets slack or
leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Roll Cutting and Castings at
the lowest market rates.
6V11-ly DEVOE, DINSMORE & CO



JAMES MACKEN,

COPPER SMITH,

No. 226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best
manner. Particular attention paid to Steamboat, Sugar
House and Distillery work.

Repairing promptly and neatly attended to.
13V11

JOHN LOCHHEAD'S

Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland
navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San
Francisco for the last fourteen years, and enjoys the repu-
tation of having built ONE HUNDRED AND SEVENTY-
SEVEN STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery
generally, made to order, and warranted to give perfect
satisfaction in every particular. 22V12-3m

Mining and Scientific Press
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Mining and Scientific Press
Mining and Scientific Press

PATENT AGENCY
Book and Job
PRINTING
Office,
DEWEY & CO.,
Publishers,
(Established, 1860)
San Francisco.

CIRCULARS FREE.
Subscribe the Now!

Published Saturdays, containing 16 pages, at \$5 per year.

OIL FROM SHALE.—Large quantities of shale are now being mined in England for the production of petroleum by distillation. More than 150 retorts have lately been set to work in North Staffordshire. Extensive works are also in progress of erection in Derbyshire and Yorkshire. All the old works in Flintshire are actively engaged in distilling canal coal and shale; and in addition to the old works in Scotland engaged in working Torbanehill mineral, quite a number of new ones are being constructed, or have already started. Similar works are also in operation in the Atlantic States and in California, and the probability is that the chief yield of petroleum will yet be derived from the shales and sand rather than from wells. California may therefore take heart, and feel confident in her ability to compete successfully with any part of the world in this class of petroleum product.

MELLVILLE C. KEITH, M. D.

Homeopathic Physician,

No. 635 Howard Street, between Second and Third,
SAN FRANCISCO.

Devotes special attention to CANCER, PARALYSIS and CHRONIC DISEASES. Consultation free.
15v13 5min

Bell's Assay Office.

THE UNEXPERIENCED, HAVING FORMED A PARTNERSHIP this day, would inform the former partners and the public generally, that they will continue the ASSAY BUSINESS in all of its branches, at the old stand,

No. 512 California street,

One door west of Montgomery, San Francisco, with the same employees, under the name of Rogers & Brown.

MR. EDWARD WOLLEB, for the last seven years Assayer for Mr. Bell, will have charge of the Assay Department.

The Melting Department will be under the charge of MR. HENRY J. FISHER, for ten years in the United States Mint in this city and Philadelphia, and for the past seven years with Mr. Bell.

We would inform Photographers that we are prepared to work their chloride of silver and ashes from their paper clippings.

We have, in connection with our Assay business a MILL, and are prepared to

WORK GOLD AND SILVER ORES,

In quantities from 25 to 500 pounds; also, Assayers' Sweeps.

GEORGE E. ROGERS,
H. W. BROWN.

October 13, 1866. 15v13 qllpur

QUINCY HALL

CLOTHING EMPORIUM!

515, 517 and 519 Washington street,

(Near Montgomery),

SAN FRANCISCO.

For a Dress Suit,

A Business Suit, or

A Working Suit,

GO TO QUINCY HALL!

For Shirts, Collars, Drawers, Undershirts, Socks, Ties, Gloves, or any other FURNISHING GOODS,

GO TO QUINCY HALL!

For Hats, Caps, Trunks, Valises and Carpet Bags,

JUST GO TO QUINCY HALL!

If you want a SUIT MADE TO ORDER, of Foreign or Domestic Cloth,

ALWAYS GO TO QUINCY HALL!

IT IS THE LARGEST AND CHEAPEST CLOTHING HOUSE IN SAN FRANCISCO.

All Goods Warranted as Represented

—AT—

QUINCY HALL,

Nos. 515, 517 and 519 Washington street,
15v13-3m Next to Montgomery.

HAYWARD, COLEMAN & CO.,

IMPORTERS AND REFINERS

—OF—

Illuminating, Lubricating,

—AND—

PAIN OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO—

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand. 4v13-3m19 414 Front street, San Francisco.

DR. O. DUNNING,

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President of the Gen. Grant Mining Company.

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On the 10th, 18th and 30th of each month that has
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When the 10th, 19th and 30th fall on Sunday, they will
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Steamer leaving San Francisco on the 10th touches at
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Departure of 18th or 19th connect with French Trans-
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An experienced Surgeon on board. Medicine and attend-
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418 Montgomery street, San Francisco.

Administrators's Sale of Real Estate.

NOTICE IS HEREBY GIVEN, THAT IN PURSUANCE
 of an order of the Probate Court of the City and
 County of San Francisco, in the State of California, made
 on the 11th day of November, A. D. 1886, in the matter of
 the estate of ELIZA ANN DOUGLAS, deceased, the under-
 signed, the Administrator of said estate, will sell at public
 auction, to the highest bidder, for cash, in one parcel, and
 subject to confirmation by said Probate Court, on MON-
 DAY, the third day of December, A. D. 1886, at 12 o'clock,
 M., at the auction rooms of Olney & Co., No. 418 Montgome-
 ry street, in the City and County of San Francisco, all the
 right, title, interest and estate, of the said intestate at the
 time of her death, and of all that certain lot, piece, or
 parcel of land, situate, lying, and being in the said City and
 County of San Francisco, State of California, and bounded
 and described as follows, to wit:

Commencing at a point in the southerly line of Broad-
 way street, distant one hundred and fourteen feet six
 inches easterly from the southeasterly corner of Broadway
 and Powell streets; thence southerly at right angles to
 Broadway street and parallel with Powell street seventy-
 seven feet six inches; thence at right angles westerly
 fifteen feet six inches; thence at right angles southerly
 and parallel with Powell street nineteen feet four inches;
 thence at right angles easterly three feet six inches; thence
 at right angles southerly and parallel with Powell street
 forty feet eight inches; thence at right angles easterly
 thirty-nine feet six inches; thence at right angles north-
 westerly and parallel with Powell street one hundred and
 thirty-seven feet six inches to the southerly line of Broad-
 way street; thence westerly along the said line of Broad-
 way street twenty-three feet six inches to the point of
 beginning.

Terms and conditions of sale: Cash—ten per cent. of the
 purchase money to be paid to the auctioneer on the day of
 sale; balance on confirmation of sale by said Probate
 Court; deed at expense of purchaser.
SAM'L S. MURFREY,
 Administrator of the Estate of Eliza Ann Douglas, deceased.
 San Francisco, November 10th, 1886. 19v13

California Steam Navigation
COMPANY.

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Nobel's Patent Blasting Oil!

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For further particulars, address
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 Principal of the City College.
 Or at 406 California Street.

5v12cawtf

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CURES ALL CURABLE DISEASES, BY THE CON-
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 mense power of the force. They will speak for themselves. The
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 mento and California. 21v13ca

Postponements and Alterations.—Secretaries are
 requested to give notice of postponements, or alterations
 which they may desire made in their advertisements at
 their earliest convenience. New advertisements should be
 sent in as early as possible.

Illegal Supplemental Advertising.—It
 would be well for Mining Companies, whose advertise-
 ments are repeatedly appearing in the Supplements of
 daily papers, to inquire into the legality of that class of
 advertising.

THE MINING AND SCIENTIFIC PRESS, published weekly, in
 San Francisco, California, by Dewey & Co., is one of the
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 City." Mining is its specialty, but it is full of a variety
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 every person interested in Nevada or California mining
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 and its reading would tend vastly to the particular "post-
 lag" and general enlightenment of our sort of working
 folks. Subscribe for it. Five dollars a year; three dollars
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 Every new improvement in mining implements and
 operations are fully described by words and illustrated by
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New Mining Advertisements.

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Notice.—There are delinquent, upon the following de-
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 thirty-first day of October, 1886, the several amounts set
 opposite the names of the respective shareholders as fol-
 lows:

Names	No. Certificate	No. Shares	Amount
Buzzolmi D.....	1	30	\$10 00
Buzzolmi D.....	2	4	1 00
Chevesich E.....	79	1	50 00
Demaro F.....	15	13	90 00
Descalzo A.....	25	6	25 00
Gautier F.....	10	30	150 00
Ghirardelli D.....	23	28	145 00
Ghirardelli D.....	72	20	450 00
Ghirardelli D.....	75	20	100 00
Hernandez E.....	29	10	50 00
Larco N.....	27	92	460 00
Lynch F E.....	58	50	250 00
Lynch F E.....	58	20	100 00
Maffre H.....	28	10	50 00
Nosholmer Jos.....	55	25	125 00
Nosholmer Jos.....	55	25	125 00
Spinoni O.....	29	9	45 00

And in accordance with law, and an order of the Board
 of Trustees, made on the thirty-first day of October, 1886,
 so many shares of each parcel of said stock as may be
 necessary, will be sold at public auction, by J. Middleton &
 Son, 404 Montgomery street, San Francisco, Cal., on Mon-
 day, the seventeenth day of December, 1886, at the hour
 of 12 o'clock, M., of said day, to pay said delinquent as-
 sessment thereon, together with costs of advertising and
 expenses of sale.

JOHN F. LOISE, Secretary
 Office, 318 California street, Up-stairs, San Francisco, Cal.
 fornia. decl

Salamanca Gold and Silver Mining Company,
 Leon Ranch District, Chavarras County, California.

Notice.—There are delinquent upon the following described
 stock, on account of assessment (No. 5) re-levied on the
 nineteenth day of October, 1886, the several amounts set
 opposite the names of the respective shareholders as follows:

Names	No. Certificate	No. Shares	Amount
Lawrence Ackll.....	189	25	\$5 00
Lawrence Ackll.....	190	25	5 00
Lawrence Ackll.....	191	25	5 00
Lawrence Ackll.....	192	30 5-19	10 00
H G Bartholomew.....	102	50	10 00
John Brannan.....	290	103 5-19	21 00
G W Bennet.....	not issued	5	1 00
James Dowd.....	220	100 5-19	20 00
John Callaghan.....	159	80 5-19	16 00
Mrs Ellen Condon.....	160	5	1 00
Edward Dougherty.....	193	25	5 00
James Dowd.....	220	5	1 00
James Dowd.....	226	20	4 00
F D Gallagher.....	194	50	10 00
F D Gallagher.....	197	10 5-19	2 00
F D Gallagher.....	215	10	2 00
F D Gallagher.....	182	45 5-19	9 00
James Hamilton.....	1	25 5-19	5 00
James Hamilton.....	3	10	2 00
James Hamilton.....	5	10	2 00
James Hamilton.....	7	10	2 00
James Hamilton.....	238	10	2 00

HALL'S SARSAPARILLA, YELLOW DOCK AND IODIDE OF POTASS.

THE BEST BLOOD PURIFIER KNOWN.

Persons that are troubled with Rheumatism, Scrofula, Neuralgia, Morbid Liver, Salt Rheum, Pimples, Boils, or any of the many diseases that originate from Impure Blood, would find it much to their advantage to give this justly celebrated article a trial. One or two bottles are quite sufficient to convince the most skeptical of its merits. It contains neither Spirit, Arsenic nor Mercury, which cannot be truly said of any other preparation called "Sarsaparilla."

SHEPARDSON & GATES, Props.

N. W. cor. Sansome and Commercial sts.
22v13-3m

TRUSSES! TRUSSES!!

Abdominal Supporters!

Shoulder Braces, Etc., Etc.

WE WOULD CALL THE ATTENTION OF DEALERS and others to our complete assortment of these goods, including Bartlett & Bateman's Celebrated BALL and SCKET REVERSIBLE TRUSS, which is decidedly the best article ever introduced into this market. By the use of the movement of the ball and socket, and the movable arm, any desired angle may be obtained. Call and examine for yourselves. A liberal discount to the trade.

SHEPARDSON & GATES, Agents,
22v13-3m Corner Sansome and Commercial streets.

ALLEN'S LUNG BALM!

For the Cure of Consumption and all Diseases of the Lungs.

This Balm is introduced to the suffering public after its merits for the cure of all diseases have been fully tested. The formula from which it is prepared is referred to by the leading medical journals as being equal to any prescription that can be made up, for such diseases, by the medical faculty. The BALM is, consequently, recommended by physicians who have become acquainted with its great success. As an expectorant it has no equal. DR. A. SCOVILLE, who has, for many years, been known to the public throughout the United States as the inventor of remedies for the lungs, recommends ALLEN'S LUNG BALM as surpassing anything that has ever been offered to the public for the cure of Lung Disease. He declares that he has used it with great success in the case of his sister, who was supposed to be in the last stages of consumption. This lady is now well, and has been permanently cured by Allen's Lung Balm.

22v13-1m

To Owners of Mineral Cabinets.

A miner in Nevada has a lot of choice Crystals, which he desires to dispose of at reasonable rates to parties who may desire to complete their display of minerals. Address the office of the "Mining and Scientific Press." 19v13-1fc

Mining Notices-Continued.

Arbitros Mining Company, Bontopline District, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1886, an assessment (No. 12) of one dollar and a half (\$1.50) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 311 Montgomery street, up-stairs, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the fourth day of December, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twenty-second day of December, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. MARTINSON, Secretary,
Office, 311 Montgomery street, San Francisco, Cal.

N. B.-Until further notice, all advertisements of this Company will appear in the "Mining and Scientific Press." n43

Chaparral Hill Gold and Silver Mining Company, Albany Flat or Hill District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of November, 1886, an assessment of fifteen cents (15c) per share was levied upon the capital stock of said Company, payable on the fifteenth day of November, 1886, in United States gold and silver coin, to the Secretary, A. de SENAHLAC, at the Company's office, 606 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the tenth day of December, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of December, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. de SENAHLAC, Secretary,
Office, 606 Montgomery street, San Francisco, Cal.

Colorado Silver and Copper Mining Company.

Notice.-The Annual Meeting of the stockholders of the Colorado Silver and Copper Mining Company, will be held at the Company's office, No. 523 Clay street, San Francisco, on MONDAY, December 24th, 1886, at 3 o'clock P. M., for the election of Trustees, and the transaction of such other business as may properly come before it.

n40-4w B. W. MUDD, Secretary.

Del Norte Comstock Company, Low Divide District, Del Norte County, California.

Notice is hereby given, that the Annual Meeting of the shareholders of the above named Company will be held on MONDAY, the third day of December, 1886, at 7 1/2 o'clock P. M., at the office of the Company, No. 331 Montgomery street, San Francisco, for the election of Trustees to serve the ensuing year, and for the transaction of other business.

R. N. VAN BRUNT, Secretary,
San Francisco, November 16, 1886. n40

George Washington Gold and Silver Mining Company, Silver Mountain District, Alpine County, Cal.-Assessment No. 15.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of November, 1886, an assessment of two and one half dollars (\$2.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, caly.

Any stock upon which said assessment shall remain unpaid on the eighth day of December, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fourth day of December, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. G. WOOD, Secretary,
Office, 338 Montgomery street, San Francisco. n40

Great Central Mining Company.-Location of Works: Yuma County, Arizona Territory.

Notice.-There are delinquent upon the following described stock, on account of assessment levied on the fifteenth day of October, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Brokaw James.....	169	21	\$24 00
Brokaw James.....	183	75	75 00
Calderon J.....	184	10	10 00
Carman Wm.....	182	100	100 00
Carman Wm.....	250	500	500 00
Collins John W.....	171	40	40 00
Collins John W.....	186	150	150 00
Hyde Henry C.....	8	5	5 00
Hyde Henry C.....	9	10	10 00
Hyde Henry C.....	10	10	10 00
Livingston R.....	174	21	21 00
Washburn E H.....	273	8	8 00
Washburn E H.....	291	50	50 00
Wheaton Wm K.....	183	25	25 00
Wheaton Wm K.....	229	20	20 00
Wheaton Wm K.....	230	20	20 00
Wheaton Geo H.....	230	50	50 00
Wheaton Geo H.....	231	40	40 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of J. de SENAHLAC, at No. 410 Montgomery street, San Francisco, Cal., on the third day of December, 1886, at the hour of four o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary,
Office, No. 302 Montgomery street. n47

Humboldt Gold and Silver Mining Company, Sierra District, Humboldt County, Nevada.

Notice.-There are delinquent upon the following described stock, on account of assessment levied on the twentieth day of September, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
A W Macpherson.....	213	113	\$220 00
John H. Turney.....	115	10	20 00
John H. Turney.....	210	10	20 00
John A. McQuaid.....	4	5	10 00
John A. McQuaid.....	5	5	10 00
John A. McQuaid.....	6	5	10 00
John A. McQuaid.....	8	5	10 00
John A. McQuaid.....	215	15	30 00
John A. McQuaid.....	216	10	20 00
N. Dore.....	30	10	20 00
Fung Tang.....	14	5	10 00
Whone Yee.....	44	3	6 00
E H Plank.....	135	1	2 00
J. Flatman.....	103	5	10 00
J. Flatman.....	103	5	10 00
W. Richardson.....	93	5	10 00
A. Loe.....	99	3	6 00
King Yan.....	86	2	4 00
Max Armer.....	120	10	20 00
Max Armer.....	125	5	10 00
Max Armer.....	177	20	40 00
C. Kilgaard.....	131	2	4 00
C. Kilgaard.....	166	3	6 00
C. Lanata.....	132	5	10 00
C. Chilton.....	124	5	10 00
H. J. Hudson.....	155	5	10 00
A. Clayburgh.....	209	25	50 00
E. Frahl.....	233	20	40 00
D. Davidson.....	242	20	40 00
J. P. E. Tommerup.....	256	3	6 00
M. Taffezon.....	259	8	16 00
M. B. Taffezon.....	284	4	8 00
M. Berkowitz.....	335	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of September, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on the twenty-seventh day of November, 1886, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. O'HARA TAAFFE, Secretary,
Office, No. 430 California street, San Francisco. n43

POSTPONEMENT.-The above sale is hereby postponed until Tuesday, the eighteenth day of December, 1886, at the same time and place. By order of the Board of Trustees.

O. O'HARA TAAFFE, Secretary.

Hope Gravel Mining Company, Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of November, 1886, an assessment (No. 11) of one dollar per share was levied upon the capital stock of said Company, payable on the seventeenth day of November, 1886, in gold coin of the United States, to David Walker, Secretary, at the office of the Company, No. 229 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Saturday, the twenty-ninth day of December, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the fifteenth day of January, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary,
Office, No. 629 Clay street, San Francisco, Cal. n45-5w

Keystone Mining Company, Location of Works: Copperopolis, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of November, 1886, an assessment of ten dollars (\$10) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 440 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on Monday, the twenty-first day of January, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of February, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. P. SUTTON, Secretary,
Office, 440 California street, San Francisco. n424

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice.-There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of October, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Nicholas Tack.....	271	100	\$10 00
Nicholas Tack.....	272	100	10 00
Nicholas Tack.....	273	50	5 00
Nicholas Tack.....	274	50	5 00
D F Richards.....	233	60	6 00
D F Richards.....	239	50	5 00
D F Richards.....	241	100	10 00
D F Richards.....	358	50	5 00

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of October, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the auction rooms of Maurice Dore & Co., 327 Montgomery street, San Francisco, Cal., on Monday, the tenth day of December, 1886, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

C. HEYWOOD, Secretary,
Office, 311 Market street, San Francisco, Cal. n424

La Rinconita Gold and Silver Mining Company, District of Ures, State of Sonora, Mexico.

Notice.-There are delinquent upon the following described stock, on account of assessment levied on the fourth day of October, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Blumhardt Wm.....	153	50	\$25 00
Blumhardt Wm.....	154	50	25 00
Blumhardt Wm.....	155	50	25 00
Blumhardt Wm.....	156	50	25 00
Blumhardt Wm.....	157	50	25 00
Blumhardt Wm.....	158	50	25 00
Blumhardt Wm.....	159	50	25 00
Blumhardt Wm.....	160	50	25 00
Blumhardt Wm.....	161	10	10 00
Blumhardt Wm.....	162	10	10 00
Blumhardt Wm.....	163	10	10 00
Blumhardt Wm.....	164	10	10 00
Blumhardt Wm.....	165	10	10 00
Blumhardt Wm.....	166	10	10 00
Blumhardt Wm.....	167	10	10 00
Blumhardt Wm.....	168	10	10 00
Blumhardt Wm.....	169	10	10 00
Blumhardt Wm.....	170	10	10 00
Blumhardt Wm.....	171	10	10 00
Blumhardt Wm.....	172	10	10 00
Blumhardt Wm.....	173	10	10 00
Blumhardt Wm.....	174	10	10 00
Blumhardt Wm.....	175	10	10 00
Blumhardt Wm.....	176	10	10 00
Blumhardt Wm.....	177	10	10 00
Blumhardt Wm.....	178	10	10 00
Blumhardt Wm.....	179	10	10 00
Blumhardt Wm.....	180	10	10 00
Blumhardt Wm.....	181	10	10 00
Blumhardt Wm.....	182	10	10 00
Blumhardt Wm.....	183	10	10 00
Blumhardt Wm.....	184	10	10 00
Blumhardt Wm.....	185	10	10 00
Blumhardt Wm.....	186	10	10 00
Blumhardt Wm.....	187	10	10 00
Blumhardt Wm.....	188	10	10 00
Blumhardt Wm.....	189	10	10 00
Blumhardt Wm.....	190	10	10 00
Blumhardt Wm.....	191	10	10 00
Blumhardt Wm.....	192	10	10 00
Blumhardt Wm.....	193	10	10 00
Blumhardt Wm.....	194	10	10 00
Blumhardt Wm.....	195	10	10 00
Blumhardt Wm.....	196	10	10 00
Blumhardt Wm.....	197	10	10 00
Blumhardt Wm.....	198	10	10 00
Blumhardt Wm.....	199	10	10 00
Blumhardt Wm.....	200	10	10 00
Blumhardt Wm.....	201	10	10 00
Blumhardt Wm.....	202	10	10 00
Blumhardt Wm.....	203	10	10 00
Blumhardt Wm.....	204	10	10 00
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Blumhardt Wm.....	206	10	10 00
Blumhardt Wm.....	207	10	10 00
Blumhardt Wm.....	208	10	10 00
Blumhardt Wm.....	209	10	10 00
Blumhardt Wm.....	210	10	10 00
Blumhardt Wm.....	211	10	10 00
Blumhardt Wm.....	212	10	10 00
Blumhardt Wm.....	213	10	10 00
Blumhardt Wm.....	214	10	10 00
Blumhardt Wm.....	215	10	10 00
Blumhardt Wm.....	216	10	10 00
Blumhardt Wm.....	217	10	10 00
Blumhardt Wm.....	218	10	10 00
Blumhardt Wm.....	219	10	10 00
Blumhardt Wm.....	220	10	10 00
Blumhardt Wm.....	221	10	10 00
Blumhardt Wm.....	222	10	10 00
Blumhardt Wm.....	223	10	10 00
Blumhardt Wm.....	224	10	10 00
Blumhardt Wm.....	225	10	10 00
Blumhardt Wm.....	226	10	10 00
Blumhardt Wm.....	227	10	10 00
Blumhardt Wm.....	228	10	10 00
Blumhardt Wm.....	229	10	10 00
Blumhardt Wm.....	230	10	10 00
Blumhardt Wm.....	231	10	10 00
Blumhardt Wm.....	232	10	10 00
Blumhardt Wm.....	233	10	10 00
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Blumhardt Wm.....	236	10	10 00
Blumhardt Wm.....	237	10	10 00
Blumhardt Wm.....	238	10	10 00
Blumhardt Wm.....	239	10	10 00
Blumhardt Wm.....	240	10	10 00
Blumhardt Wm.....	241	10	10 00
Blumhardt Wm.....	242	10	10 00
Blumhardt Wm.....	243	10	10 00
Blumhardt Wm.....	244	10	10 00
Blumhardt Wm.....	245	10	10 00
Blumhardt Wm.....	246	10	10 00
Blumhardt Wm.....	247	10	10 00
Blumhardt Wm.....	248	10	10 00
Blumhardt Wm.....	249	10	10 00
Blumhardt Wm.....	250	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of October, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesrooms of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on the sixth day of December, 1886, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOS. GOLDMAN, Secretary,
Office, 318 California street, up stairs, San Francisco. n40

Mineral Mountain Gold and Silver Mining Company, Carson's Flat or Hill District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of November, 1886, an assessment of ten cents (10c) per share was levied upon the capital stock of the said Company, payable on the fifteenth day of November, 1886, in United States gold and silver coin, to the Secretary, A. de SENAHLAC, at the Company's office, 606 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the tenth day of December, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of December, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Lega; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to this same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of this Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been burnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

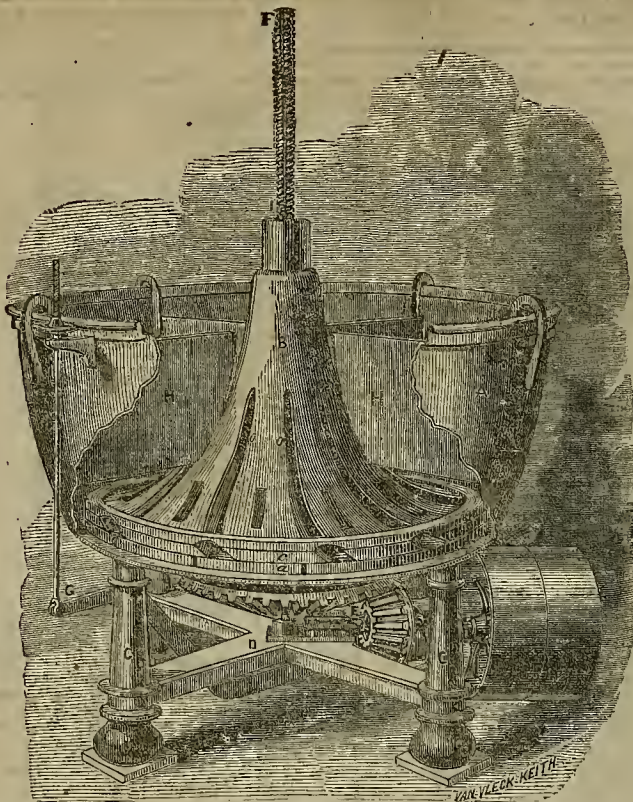
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

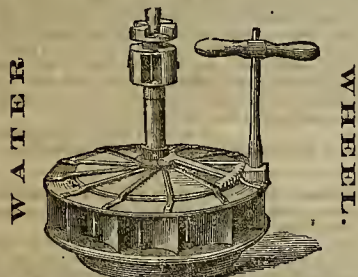
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,** 1st St. San Francisco.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by **KNAPP & GRANT,** 310 Washington Street, San Francisco, where persons desiring to use water-power can be supplied. These wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to **KNAPP & GRANT,** also, San Francisco.

Leffel's Lever Jacks, For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by **KNAPP & GRANT,** 310 Washington Street, San Francisco.

Notice to Miners, Well-Borers and Water Companies.

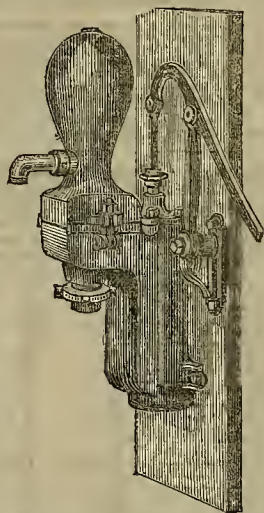
M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG, 310-312 Clay Street, below Davis.

American and Foreign Patents.—Letters Patent for Inventions can be secured in the United States and foreign countries through the **MINING AND SCIENTIFIC PRESS PATENT AGENCY.** We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

The Hansbrow Pumps

ARE WARRANTED THE



BEST PUMPS OFFERED.

All Sizes, for any Purpose,

FOR SALE BY **LOCKE & MONTAGUE,**

112 and 114 Battery Street, SAN FRANCISCO. 16v13-2m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

19v12 T. KALLENBERG, 416 Market Street, San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission Streets, or Box 2,077 3v13f SAN FRANCISCO.

Hunt's California Pump

HAS all the advantages of any other Pump, is one third cheaper and more durable, will draft water as deep and force as high as any others, is not liable to get out of order, and is easily repaired by any one.

All these Pumps are fitted to work by hand if desired.

These Pumps have given good satisfaction to all who have used them during the last three years. Good judges have examined and pronounced them to be the cheapest and best Pumps in use.

Manufactured at Hunt's Windmill Factory, 28 Second Street and 110 Jessie Street.

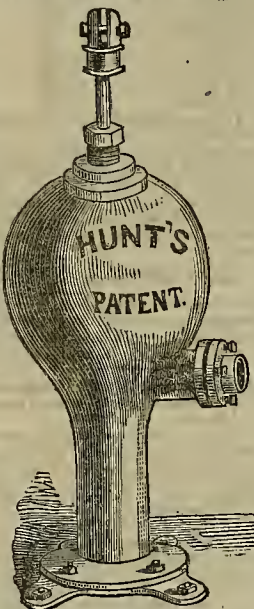
Also, Tread Horse Powers, Pumping Frames for Irrigating, Saw Frames, Sweep Horse Powers and Frames, all in one frame, the horse to travel around the frame.

PRICES OF HUNT'S CALIFORNIA PUMPS.

No. 3—3-inch cylinder, 6-inch stroke.....	\$30 00
No. 4—3 1/2-inch cylinder, 6-inch stroke.....	35 00
No. 5—4-inch cylinder, 6-inch stroke.....	45 00
No. 6—5-inch cylinder, 8-inch stroke.....	60 00
No. 8—8-inch cylinder, 12-inch stroke.....	90 00

For further particulars, send for Circular.

E. O. HUNT, 21v13f 23 Second and 110 Jessie Streets, San Francisco.



Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS, 114 Ecale Street, San Francisco. 21v12 3m

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery OF ALL KINDS.

Especially attention given to **Quartz Mill Machinery and Findings,** and **Miners' Material** of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. F. Low;	Coffey & Risdon, San Fran
C. T. Meador, Stockton;	Cisco;
Jacob Underhill & Co., San	Geo. K. Guyas, Chief En-
Francisco;	gineer of Cal. & Nev. Co.,
J. W. Stowe, Russell & Erwin	San Francisco.
Manufacturing Company;	
Office, No. 120 Front Street, San Francisco.	4v12

Plastic Slate Roofing.

The composition and utility of this new material for roofing, which was noticed at considerable length in our issue of September 22d, is thus referred to by a correspondent writing from New York, under date of October 23d:

EDITORS PRESS:—In looking over your valuable paper, of which this company is a subscriber, I see a notice of the new roofing material called "plastic slate." Their office joins our own, and I have had many opportunities for ascertaining facts concerning this new invention, and can testify that what you say is *all true*, but not *all the truth*. I had the pleasure, a short time since, of being in their rooms at a stockholders' meeting, and listened with interest to the experience of the different licensees, all of whom concurred in the one belief, that it is the *best* roofing material known, and has only to be used in a city, town, or neighborhood, and shown, to constitute it the favorite. There has been some delay occasioned by the inability of manufacturers to supply the materials (slate, flour and felt) as fast as called for. This is, however, being remedied very fast; mills are going up in all sections of the country. Speaking of the good qualities, I can speak understandingly. I have seen the roofs, heard parties baving them on their houses speak, and as to its being *fire-proof*, I have taken a piece and laid it on a bright fire, in a coal grates, and kept it there until *red hot*, and when taken off and cooled, presented the appearance of a sheet of slate, such as is used in our common schools. There is no question but that it is an entirely wind, water, and fire-proof roof, as well as the cheapest in the world.

Our correspondent has forwarded several samples of this new roofing material, from which a very good idea of the character of the same may be formed. One of the sample has been exposed for eighteen months upon a roof. These specimens may be seen at the office of the **MINING AND SCIENTIFIC PRESS**, where, also, further information may be obtained relative to the terms on which capitalists may obtain the patent right for this invention on the Pacific coast.

COLORADO RIVER.—The Salt Lake Telegraph, of November 1st, has the following:

We had yesterday the pleasure of a visit from S. Adams, Esq., who, with Captain Trueworthy, was here last summer, eliciting the interest of our merchants and business men in the opening of the Colorado river. Mr. Adams is direct from Callville, and brings us intelligence that a steamer had passed up the Roaring Rapids—the bug-bear of the monopolizing company—consuming only seven minutes in the transit, the distance being 120 yards, with some four feet fall. The obstructions, which, it had been represented to Congress, would take \$150,000 to remove, Mr. Adams says he is willing to contract to remove for \$1,500.

The river, he has not a doubt, will be navigable at all seasons of the year, and its opening is now regarded as a substantial fact.

To demonstrate the practicability of a passage through the celebrated Black Cañon, ten miles long, a short distance above Callville, Mr. Adams threaded his way up along the river banks to the head of the cañon, and went down on a small raft. He returned, satisfied that the river pass through the Black Cañon was navigable, and further states that for forty or fifty miles above the head of Black Cañon, he saw an open country, giving almost definite assurance that steamers will be able to pass seventy or eighty miles above Callville, thus, of course, lessening, by that number of miles, the distance from the head of water navigation to St. George and this city.

Considerable emigration was passing from Montana to the Arizona mines via Callville, where a bridge was being built across the Colorado.

THE PENALTY OF GENIUS.—A Prussian gentleman recently announced to the public that he had discovered a new cartridge and explosive bullet, by the use of which an army might be made invincible as against another not provided with the same contrivance. The paternal care of "Fatherland" was immediately interested in his behalf, and he now has a squad of twelve soldiers to guard and protect him day and night, lest he should communicate the important secret to some person, which may be or might become inimical to the Prussian Government. He is not allowed to write a letter without it being inspected by his guard or hold a word of conversation except in their presence. Verily, what polite attentions wait on genius under monarchical governments.

Reviews.

"PETROLEUM ETHER" is now used to extract the perfume of flowers.

The New York Central Railroad is about to import steel rails for two miles of track.

Over one million of gallons of wine will be made in Los Angeles county this season; and about 150,000 in Yuba county.

BETWEEN two and three hundred pounds of amalgam was stolen from Jus. French's mill at Silver City, Nevada, a few nights ago.

EIGHT THOUSAND CHINAMEN will be set at work by the Central Railroad Company, on the eastern side of the Sierra, on the first of December.

C. L. DABOLL, the inventor of the fog trumpet, noticed in a late number of the Press, died at New London, Connecticut, on October 13th.

DR. DE BRIVU, of Paris, has produced no enamel point made from india-rubber, which renders iron absolutely proof against the action of the atmosphere.

THE rates of fare in the steam line to China will be from Hong Kong and San Francisco, \$300, \$200, and \$100 to the 1st, 2d and 3d cabins respectively.

KILANKA, the Sandwich Island volcano, was the scene of another eruption on the 15th of October. It is said by those who were in the harbor of Hilo at the time, that it was a most magnificent sight.

A PROJECT for manufacturing the gas for New York at the Pennsylvania coal mines and bringing it to that city in pipes, is being discussed. The expense of laying two pipes 150 miles in length, and building the necessary reservoirs, will cost ten millions of dollars.

It is said that the portion of Illinois bounded by the Ohio river appears to be filled with lead veins thirty to fifty yards apart, and yielding ore in paying quantities. These veins begin about thirty feet below the surface, and have been traced down to the depth of 1,600 feet, becoming richer the deeper they descend.

Mammoth Quartz Lode, Keyville District, Kern County.

"To all whom it may concern."

ALL PARTIES negotiating for interests in the above Lode, would do well to examine titles before investing, as the legal title to a considerable portion thereof is vested in the undersigned.

WILLIAM MARSH,
W. L. KENNEDY.

Keyville, Kern County, Oct. 1, 1866. 16v13m5m

CARDS	Sterrett & Cubery,	BILLS
\$3	PRINTERS,	—AND—
Per 1,000	533 Clay street,	Circulars
—AND—	—BELOW—	NEATLY
Lower Rates	MONTGOMERY STREET.	Printed
—FOR—	19v13-3m	AT—
5,000.		Low Prices.

WM. A. KOLLMYER.
LOOKING-GLASS
—AND—
PICTURE FRAME MAKER,
No. 41 Third street,
Near corner of Jessie.
19v123m

FOR SALE! QUARTZ AND MINING MACHINERY.

ONE GARDNER'S THUNDERBOLT CRUSHER, LARGEST size and best quality; is entirely new, with all extras— with a large lot of other Quartz Machinery, including Engines, Boilers, etc.
16v13
COFFEY & RISDON.

Rubber Belting, WITH COTTON FILLING.

A FULL ASSORTMENT OF 3 AND 4-PLY, NOW IN store and for sale by
THOMAS H. SELBY & CO.,
22v123m Nos. 116 and 118 California street

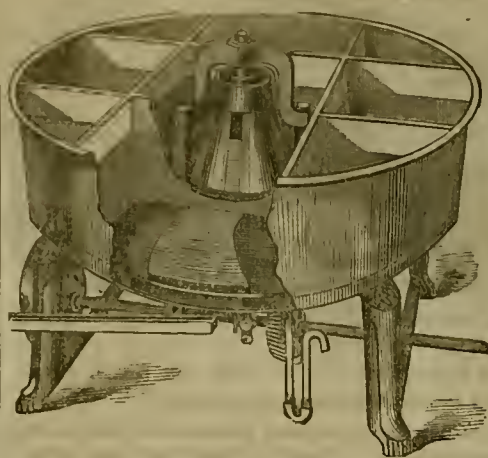
J. MARSHALL. W. WYLLIE.
GLASGOW
IRON AND METAL IMPORTING CO.,
No. 27 Fremont street,
SAN FRANCISCO.

Des to inform purchasers that they have just received a large stock of Glasgow and Staffordshire best refined Bar Iron, Boiler Plate, Anvils, Cast Steel, Boiler Tubes, Gas and Water Pipes, GAS FIXTURES, etc. They offer the same for cash, on liberal terms, at wholesale and retail. The Company have superior facilities for supplying the constant demands of the market.
Country Orders punctually attended to. 19v13-q

IMPORTANT —TO— WORKERS OF GOLD & SILVER ORES.

THOSE INTERESTED WILL FIND IT TO THEIR ADVANTAGE to call on MR. WILLIAM SLOSSON, at Prof. W. P. Blake's Office, and obtain a Business Circular, just published by the WURTZ AMALGAMATION COMPANY of New York, who have secured, under the Patents of Prof. Henry Wurtz, the sole and exclusive right to the use of sodium in amalgamation. Mr. Slosson is prepared to supply the license of the Company, with the material for applying this new and wonderful discovery, by which, in the words of President Barnard, of Columbia College, "two grains of gold may be gathered where but one was before." 25v13-2m

Knox's Improved Patent Amalgamator and Separator, With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of]

16v13-123

At the Golden State Iron Works, No. 19 First street, San Francisco.

CAUTION!

NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 20th, 1864, and issued June 27th, 1865, to Professor Henry Wurtz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY,
OF NEW YORK.

Assignees of letters patent granted to Prof. Henry Wurtz, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.

The terms and conditions upon which rights to use the process are obtainable, can be had on application to
WM. SLOSSON,
Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 5v13

NEW YORK PRICES.

WATCH REPAIRING AT NEW YORK PRICES.

C. E. COLLINS,
No. 603 Montgomery street, San Francisco.
EXCLUSIVE AGENT
—FOR THE—
AMERICAN
WATCH FACTORY.

A large assortment of these
Superior Watches,
In Gold and Silver Cases,
Constantly on hand, and sold at Factory price. Also,
ENGLISH AND SWISS WATCHES,
Imported directly from the Manufacturers.
The American Company are now making
VERY FINE WATCHES FOR LADIES.
A large assortment of Gold Chains and Jewelry. 25v10-6m

YORK PRICES.



STANDARD SOAP COMPANY'S WASHING POWDER.

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for use in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1-lb each, and in wooden boxes of 10-lb bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15v124

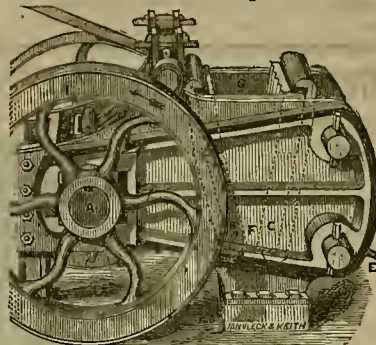
WE ARE NOW OFFERING OUR IMMENSE STOCK

Fine Custom Made Clothing

Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.
A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.
J. R. MEAD & CO.,
Cor. of Washington and Sansome streets.
5v10

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:
No. 1.—Or 9-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600
No. 2.—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour—price, \$850
No. 3.—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour—price, \$1,200

EXPLANATION OF THE ABOVE ENGRAVING.
The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass over the fixed Rock Crushers into the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or rod, which connects the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the machine, which, in combination with the fixed jaw, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:

RAWHIDE RANCH, Tuolumne Co., Sept. 23, 1866.
JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,
Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 25th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.
BRODIE & RADCLIFF,
Express Building, 402 Montgomery street, San Francisco.
12v13m

J. B. CONE,
Employment and Business Agency.
J. B. CONE & CO.,
Supply Male and Female Help, sell Farms, Mines and places of business, negotiate loans, and procure partners. Orders sent by mail or express will be promptly attended to.
J. B. CONE & CO., No. 402 Montgomery street, 12v13-1

MOUNT DIABLO COAL. CHEAP FUEL!

Cheaper than the East.
From the Independent Mine, at \$10 per ton.
GREENHOOD & NEUBAUER,
Nos. 207 and 209 Sansome street, between California and Pine.
14v13-3m

Ready for the Steamer "Colorado," On the 1st of January, 1867.

TO BE PUBLISHED ON THE DEPARTURE AND ARRIVAL of the Pacific Mail Company's steamer to and from China.

THE CALIFORNIA CHINA MAIL —AND— FLYING DRAGON NEWSPAPER.

Printed both in the English and Chinese languages, for China, Japan, Australia, Burmah, Siam, Malacca, Singapore, Hindostan, etc., etc.
One of the immediate and most striking results of this mutual intercourse, will manifest itself in the fact that this country will be

EIGHT DAYS
Ahead of Europe in its commercial intercourse with the countries of the East; and ultimately this line of communication must be the preferred road of the silk trade, etc., instead of the Suez route.

The price of the "California China Mail" will be
Twenty-five Cents per number.—Annual Subscription, including Supplements, \$10 per Annum.

Advertisements, business notices, etc., in English only, will be charged fifteen cents a line; in CHINESE and ENGLISH, twenty-five cents per line; and one dollar extra for the translation of the first fifty characters; and one cent per character all exceeding fifty.
Copies of THE "CHINA MAIL AND FLYING DRAGON" may be had at all the offices of the Pacific Mail Steamship Company, in China and Japan.
Office, 525 Clay street, San Francisco. 18v13m

The Mercantile Gazette

PRICES CURRENT,

E. D. WATERS, Proprietor.

Office, Northeast corner Clay and Battery sts.,

SAN FRANCISCO.

The Mercantile Gazette and Prices Current is the only

Commercial Paper

ON THE PACIFIC COAST.

PUBLISHED EVERY STEAMER DAY.

Terms, \$9 per Year, payable in advance.

THE LETTER SHEET PRICES CURRENT

For enclosure in letters, is also published every STEAMER DAY.
13v13m

BELLAMBI COAL!

A SUPERIOR ARTICLE OF

SMITHS' COAL,

FOR SALE IN QUANTITIES TO SUIT.

At Greatly Reduced Rates.

Sacked to order for Shipment to the Country.

Apply to

FLINT, PEABODY & CO.,

13v13q 408 CALIFORNIA STREET, San Francisco.

REPORT

—OF THE—

COMMITTEE

—ON—

SEWING MACHINES!

California State Fair, 1866:

"TO THE PRESIDENT OF THE STATE AGRICULTURAL SOCIETY: Your Committee on Sewing Machines beg leave to report that we have examined the several Sewing Machines on exhibition, (the Grover and Baker, the Wheeler & Wilson, and the Florence,) and find that

FOR GENERAL FAMILY USE

—THE—

"FLORENCE"

—IS—

"THE BEST."

(Signed) J. N. ANDREWS,
THOMAS C. McHALE,
L. ELKUS.

If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco Office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.

SAMUEL HILL,
General Agent, 111 Montgomery street, San Francisco.
17v13

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

WATER WHEEL.—Adolphus Lind, San Francisco, Cal.: This invention relates to an improvement in the Jonval Water Wheel; by which it may be made to accommodate itself to dry seasons, with the least loss of power and trouble in adjustment. With this improvement there is no occasion to stop the wheel at all for adjustment; while it can be made to use more or less water in proportions of from one to five.

WASHING MACHINE.—Alexander Badlam, Sen., San Francisco, Cal.: This invention relates to certain combinations and arrangements of a water-hox underneath the wash-board; of metal dogs, worked by slots, set screws and nuts, by which the proper pressure is obtained upon the clothes by raising or lowering the movable rubbing board, also two dash-boards, to prevent the inconvenient splashing of the water—the whole constructed and arranged for joint operations substantially as described in his application.

QUARTZ MILL IMPROVEMENT.—Cummings P. Colby, Lancha Plana, Cal.: The nature of this invention relates to the placing of the cam shafts, used in stamp batteries, lower or nearer to the stamp heads, and attaching to them eccentrics, with collars from which extend upright rods, connected with a spring so arranged that the stamp, in falling, will give a quick percussive blow to the ore in the battery. By this arrangement of stamps and machinery, it is claimed that about three times the number of strokes can be given to the pestles, over those attainable in the ordinary batteries, where the tappets are placed upon the stamp stems, and worked by cams; the whole of which is operated without an increase of power, proportioned to that required to obtain the same work in the ordinary manner. A simple and convenient set screw arrangement is also introduced by which the stamps may be readily elevated and held at a uniform height for cleaning out the battery.

MACHINE FOR SAVING GOLD AND SULPHURETS. M. A. Woodside, Georgetown, Cal.: This invention consists of a revolving or endless blanket, of canvas or other material, upon which the ore is introduced, as it comes from the battery of a quartz mill, through a perforated feed-box; a pipe, perforated upon its under side, and extending across the blanket admits a shower jet of water sufficient to distribute the pulp over the same, and carry off the light sand down the upper side of the blanket, contrary to its motion, to the waste way; while the sulphurets and gold being heavier, are carried upward, as the blanket revolves, and are dropped therefrom into a box underneath. In order to secure their removal from the blanket, a revolving brush is made to revolve against the surface of the same, during its under revolution, by which any gold or sulphurets which may not fall off from the effects of gravity, may be brushed therefrom into the box aforesaid. This arrangement is intended to obviate the necessity of the tedious process of washing the blankets by hand. The inventor claims the endless blanket and revolving brush when arranged substantially as described and for the purposes set forth; also the perforated feed-box and water pipe, when arranged and employed for the purpose specified.

Each of the above patents were obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, in one half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California Inventions, and the promptness of our personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE.

DEWEY & CO.,
Patent Agents, 505 Clay street, San Francisco.

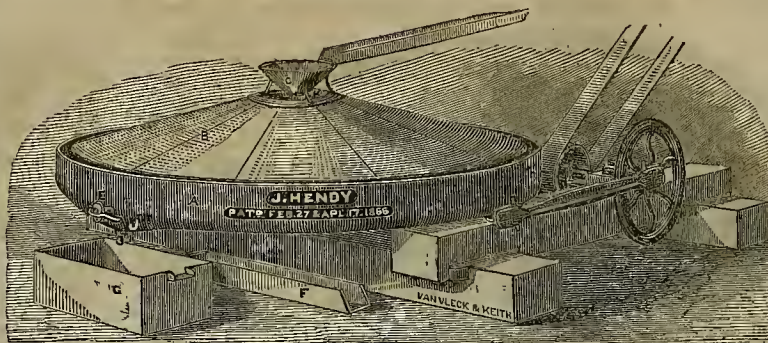
SIXTY-SIX tons of copper ore from the Planet mine, Arizona, which arrived here by the William Ireland, sold at \$106 per ton.

GENERAL ROSECRANS' mill on the Trio gold mine, near Jamestown, Tuolumne county, will be completed in a few days.

PACIFIC HYGIENIC HOME WATER CURE, at Fountain Farm, near Oakland. Chartered and conducted according to the teachings of the Hydropathic College of New York, by the Pacific Hygienic Home Association (Incorporated), B. J. SMITH, M. D., Consulting Physician; R. S. MACBETH, M. D., Attending Physician; W. G. W. HARPOND, Manager; H. ANDREWS, Business Agent. Office, Baths and Lecture Hall, No. 627 Sacramento street, between Montgomery and Kearny streets. Free Lectures every Tuesday and Friday evenings. 16v13-1f

It contains correspondence from different sections, giving accounts of new discoveries in gold, silver and copper, and should be taken by every person who wishes to keep well posted on the developments of our State and the Territories.—Mountain Messenger

HENDY'S NEW CONCENTRATOR.



[Will soon be illustrated.]

Hendy's Latest Improved Concentrator, for Gold and Silver Ores, With Revolving Stirrers and Rotary Distributor,

(As described in the MINING AND SCIENTIFIC PRESS, November 17th, 1866), can be seen at H. J. Booth & Co's, Union Foundry, First street, corner of Mission. For further particulars, send for a Circular. Address

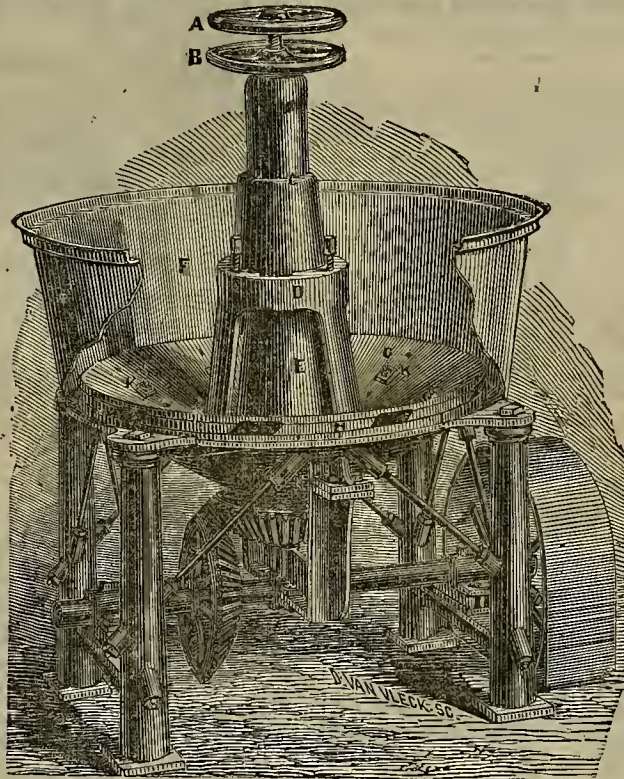
J. HENDY,

403 Montgomery Street, San Francisco.

N. B.—The proprietor is prepared to furnish these Machines on thirty days trial, to responsible parties.

HEPBURN & PETERSON'S PANS AND SEPARATORS.

For Reducing and Amalgamating Gold and Silver Ores.



We invite the Mining Public to examine the record of our Machines before adopting any other for producing similar results. They have been in general use for the past three years, during which time they have been repeatedly tried in comparison with every other machine of note, and have invariably been adopted in preference; which facts we offer as the most suitable recommendation, and which is attested by the following list of

Principal Mills Using them:

Names of Companies.	Location of Mill.	Names of Companies.	Location of Mill.
GOULD & CURRY	Virginia City, Nevada.	TEARLE, ROGERS & CO.	Nevada.
SILVER STATE REDUCTION WORKS	Empire City, "	MELVILLE KELSEY	Silver City, "
OPHIR	Washoe City, "	HUGHES & FOREMAN	Silver City, "
EDWARD McLEAN	Silver City, "	YELLOW JACKET	Empire City, "
SANTIAGO	Zephyr Flat, "	RELDIN & GREGORY	Esmeralda, "
RAFAEL & HUSTED	Gold Hill, "	LECKENBERRY	Calaveras Co., Cal.
FRENCH & BESLER	Dayton, "	CARSON CREEK	Calaveras Co., "
HERMAN, KETSCHER & CO.	Carson River, "	CROWN LEAD	Mariposa Co., "
A. SUTRO	Dayton, "	BIG BLUE LEAD	Tulare Co., "
DAVIS & BARBER	Carson City, "	T. STEEN	Amador Co., "
PHENIX	Silver City, "	EAGLE	Amador Co., "
CHAS. S. COUVER	Silver City, "	IDA MILL	Owens River, "
PIONEER	Silver City, "	ALACRAN	Sonora, Mexico.
L. A. BOOTH & CO.	Virginia City, "	SANTA CLARA	Sonora, "
DELAND	Washoe, "	ROSARIO & CARMAN	Sonora, "
RUBBER MILL & MINING CO.	Gold Hill, "	LIBERTAD	Sonora, "
RODGERS & GRISAM	Silver City, "	DON JUAN ROBINSON	Sonora, "
ANDERSON & SEAL	Washoe, "		

Manufactured at the Principal Foundries in San Francisco.

HEPBURN & PETERSON,

At the VULCAN IRON WORKS, Nos 137 and 139 First Street, San Francisco.

THE PENINSULA OF SINAI has recently been carefully examined around its coast, and throughout most of its interior, by Rev. F. W. Holland, who has prepared a very interesting report of his examinations, describing various roads, ruins, etc., discovered by him in unfrequented localities, bespeaking a period of large population and civilization at some former period. Sinaitic inscriptions and ancient turquoise mines were discovered. All these remains are most likely due to the former occupation of the peninsula by the Israelites, during their passage from Egypt to the Promised Land.

WM. HAGEMANN,

Sole agent for

Schaffer & Budenberg's Steam Gauges, And all articles used by Engineers. Obeltenham Fire Clay Works, St. Louis;

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The following resolution was adopted by the California Miners' State Convention, held at Sacramento, Jan. 17th, 1866:

Resolved, That we regard a mining paper or journal of great mining interest, of California, and we recommend the MINING AND SCIENTIFIC PRESS, of San Francisco, to the consideration and support of the miners of the Pacific coast.

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SAN FRANCISCO, SATURDAY, DECEMBER 8, 1866.

VOLUME XIII.
Number 23.

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[Reported for the Mining and Scientific Press.]

California Academy of Natural Sciences.

REGULAR MEETING, Monday, Dec. 3d, 1866.
President in the chair.

Twenty-one incumbents present.

Donations to the Library.—American Journal of Arts and Sciences; Proceedings of Philadelphia Acad. Nat'l. Sciences for April, May, June, July and August, 1866. Annals of Lyceum Nat'l. History of New York. Transactions of Connecticut Academy of Art and Sciences, Vol. I, Part I. Silliman's Journal, Vol. XLII. Proceedings of the Essex Institute, January, February, March, 1866. Observations on the Cranial forms of the American Aborigines, by Dr. Meigs. Memoirs before the Boston Society of Natural History, Vol. I, Part I, 1866. Annual Report, 1865, of Museum of Comparative Zoology of Cambridge, Mass.

Synopsis of North American Gauriææ, by J. T. Rothrock, B. S., July 1864.

Monatsbericht der Königlich Preussischen Akademie der Wissenschaften zu Berlin, February, March, April and May, 1866.

Fossils in the coal formations by Leo Lesquereux, May, 1866.

Congressional Documents and Stato Papers presented by Hon. John Conness.

Verhandlungen des natur historischen Vereines, etc., Prof. C. O. Weber, M.S. 1864.

Zoologisch-botanischen, Geso Uschoft, 1864.

Dr. F. Hanson was proposed for resident member.

Mr. Stearns exhibited specimens of *Petricola California*, and *Pholididea ovoides* in unusually hard serpentine, collected by him at Fort Point, San Francisco.

Prof. Whitney read a letter from M. Auguste Bernard, giving an interesting account of the discourse of M. Bernard, in connection with the age of the coal formations, and of the silver bearing strata of Chile, tracing the same through the Province of Lower Mexico, to the State of Nevada, and affording hope for the discovery of a true coal in that State. The labors of M. Bernard in Sonora and South America are of much importance, and will, undoubtedly, result in throwing light upon the age and peculiarities of said formation, of great scientific value.

Messrs. Whitney, Stearns and Knight were appointed a Committee to examine and procure a room, or rooms, for the Academy.

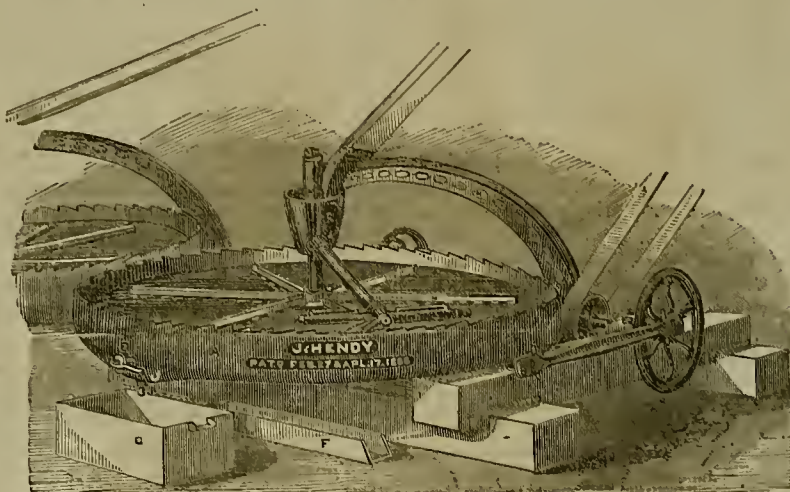
Messrs. Behr, Ashburner and Ewer were elected a Committee to nominate a ticket for officers of the Academy for the coming year. Adjourned.

PATCHED BULLETS are now made for breech loading rifles. For close shooting a patch is indispensable. Hence muzzle-loaders have been considered to have in this respect an advantage over breech-loaders; patches not being used in the latter. In this invention, the patch is nicely fitted and fastened firmly upon the bullet by means of a matrix and die.

The cylinder of the hydraulic press which was used to push the Great Eastern to the water, weighed twenty-two tons.

HENDY'S NEW CONCENTRATOR.

We give annexed an illustration of Mr. Hendy's latest improvement to his concentrator. As we remarked in our issue of the 17th ult., the old Prater machine, under Mr. Hendy's manipulation, has been so transformed as to present but little of the appearance of the original machine. By this improvement the conical feeding distributor has been entirely done away with. The feed in this machine is made to enter the conical box, C, which is sustained by the curvilinear support which is seen to spring from the right hand side of the pan; from thence it passes through the hollow arm leading to the T attachment, marked D, which



HENDY'S NEW IMPROVED CONCENTRATOR.

is made to sweep slowly around the circumference of the pan, by means of the ratchet teeth upon the upper edge of the same, into which two pawls are seen to work. This motion is obtained from the vibrating action of the pan, as in common use. Upon the under side of the T attachment to the arm, are small openings through which the pulp is dropped from the feeder into the pan. The constant revolution of this arm secures a more uniform feed than can be obtained from the conical feeder. A set of stirrers, with small projectors or teeth is shown, which is also kept in revolution with the feeding arm, the design of which is to prevent the sand from packing near the center, where the motion is diminishing. The discharge orifice and box for receiving the sulphurets will be readily distinguished. Those pans may be so connected, as in the ent, that two can be driven by one shaft and pulleys. We understand that two of those machines have already been ordered by Mr. Hooper, the proprietor of the Gold Hill mill, Grass Valley, where they may soon be seen at work. We are also authorized to state, that these pans will be sold on thirty days trial—with no sale unless satisfaction is given. They are manufactured at the Union Foundry in this city, where one of the pans can be seen in operation.

A PNEUMATIC tube, like the one at work in London, is being laid down in Paris, for the conveyance of letters and packages between the Grand Hotel and the Bourse.

THE PARIS EXPOSITION.

At the meeting of the Paris Exposition Committee, held in this city on Tuesday last, Dr. Pigne-Dupuytren stated that he had received a letter from the French Minister of Commerce, which conveyed ample assurance that the articles sent from California should be allowed sufficient space for exhibition, if sent from here even as late as by the steamer of January 18th, 1867, and also one from the Director of the *Ecole des Mines*, at Paris, conveying the same assurance. The dispatch from New York, requiring all articles going via New York to be forwarded from here by December 10th, refers only to articles sent in

on Thursday afternoon, at which several of the new members were present, who manifested much interest in the general business of the Committee. After considerable discussion with regard to the propriety of raising funds, and the proper objects for which such funds should be disbursed, on motion of Mr. J. W. Stow, the following resolution was unanimously adopted.

Resolved, That a Finance Committee be appointed by the Chairman, whose duty it shall be to distinctly define the object for which the Commissioner was appointed by the State; to estimate the amount required for the object contemplated in such appointment, and for the transportation of any contributions to the World's Fair, and to make a public statement and appeal for funds sufficient to meet such contemplated expenditure.

The Chairman appointed Messrs. Stow, Woil, Deeth and Hong, of Sacramento, as such committee.

The meeting then adjourned.

THE PROVIDENCE LEDGE.—Mr. T. F. Dingley has exhibited to us some specimens of ore from this claim, of which he is superintendent. He has also shown us the memoranda of assay and working test of the same. The former shows \$119.26 in gold, and \$32.77 in silver, amounting to \$152.03 the ton. By mill process the figures are \$48.20. Mr. D. favored us with some notes in reference to the mine, from which we extract the following:—

It is located at a point about two and a half miles from Grass Valley, and one and a half from Nevada City. There are 2,100 feet in the claim. Two tunnels have been run in; one, the lower, to the distance of 400 feet, the upper one, 700 feet. In the head of the latter, there is a chimney of ore 15 feet in width. A chimney from 3 to 12 feet wide runs up through both tunnels. In this, ore is now being taken out from near the surface of the ground. From this chimney \$32,000 has been taken within the last two or three years. The company have a 12-stamp steam mill. This is believed to be a mine which would prove a most valuable one if properly worked. Hoisting works are at once required, and certain improvements in the machinery now running.

CITY COLLEGE EXHIBITION.—The semi-annual exhibition of the City College was held on Tuesday evening last, at Calvary Church. Rev. Mr. Veeder, the Principal of the Institution, presided at the exercises, which consisted of essays and declamations, interspersed with music. The performances were of a very superior character, and evinced the most critical as well as practical training. The young friends of the scholars, of both sexes, were out in full force, filling pretty much all the seats in the gallery, from which regular showers of bouquets were rained down upon the speakers, as they successively brought their individual exertions to a close; the general applause from the body of the house was equally as emphatic as the floral demonstrations from the galleries. The City College is regarded as one of the most thorough and promising institutions of learning in California. It has a most efficient corps of teachers, with extensive philosophical apparatus, and a chemical, assaying and mining department, equal to almost any institution, even in the older States. We are pleased to learn that the number of pupils is steadily on the increase.

Another meeting of the Committee was held

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

The Distillation of Gold and Silver Amalgam by Superheated Steam.

BY G. LANSZWEERT.

The very trite, but somewhat uncomplimentary proverb, having reference to certain persons and their money, and the well-known fable of the dog and the shadow, will, it would appear, never want for illustrations, even in California. In rescuing from oblivion the following described process, for the public benefit alone, I may possibly put a light damper on a new, so-called patent *modus operandi*. The new "processes," which are being so constantly protruded upon the public, seem to be, to use the words of Kingsley, "necessary evils, like rats, and which, like them, must be kept down judiciously." The process of distilling amalgam by superheated steam, was first published in the *Comptes Rendus*, of the Institute of France, October 14th, A. D. 1850, and presented to that body by M. Violette. It consists in immersing the amalgam to be distilled in a current of superheated steam, from 350 to 400 degrees Centigrade. The steam acts at once as the heating and mechanical agent; it first heats the metal so as to produce distillation, then drives before it and draws the mercurial vapor, the production of which it facilitates; it hastens the distillation, just as a hot current of air increases the evaporation of water. The aqueous vapors, charged with mercurial vapor, are condensed together in a common refrigerator; the metal settles at the bottom of the receiver, while the condensed water occupies the upper part. It is curious to observe the liquid thread, which flows from the refrigerator; two currents or threads are distinguishable—an upper one which is water, and the lower one mercurial—there is thus a continuous current of both. No concussions occur; the operation goes on as quietly and as easily as the distillation of water.

The apparatus which was employed in these experiments, consisted of, 1st, a cast iron cylindrical retort, receiving the vessel which contains the mercury; 2d, an iron worm (a superheater), through which the vapor of water circulates, heated to the proper degree, and, entering the retort, traverses it from one end to the other. The mercury being immersed in it, escapes with the mercurial vapor, and both are condensed in a refrigerator.

The author gives, in a series of tables, the results which he has obtained by many experiments, in the distillation of mercury alone, and amalgamated. He states the quantity of vapor necessary, and the economical advantages of this new process.

1. *Facility of the operation.*—Simple ebullition and distillation of water are substituted for the difficult and dangerous distillation of mercury, while there is more trouble in managing the fire, more danger of breakage of the retort, more difficulty in removing the metal, and more wear of the retort. Whereas, in the new process the temperature is constant and fixed, and much lower than the red heat usually employed.

2. *Economy of operation.*—One workman alone can manage an apparatus, charged with 2,000 pounds of amalgam; as this new process is adapted even to larger dimensions.

3. *Economy of fuel* is certain, but practice alone can state the amount of it; no useless expenditure of fuel will occur, since the heat employed will not be greater than required for the distillation of the metal.

4. *Economy of Mercury.*—The distillation of 200 pounds of silver amalgam occasions the loss of four pounds of mercury. There are produced and distilled, annually more than six millions of amalgamated silver; there is therefore a loss of 240,000 pounds of mercury worth about \$200,000—which loss the new process avoids.

5. *Health.*—In the new process there is no loss of mercury; the mercurial vapor is condensed with the vapor of water; further, in the ordinary operation, mercurial vapors fill the whole of the retort, and when opened at the close of the operation, the vapor is diffused in the atmosphere; whereas in the new process the steam has driven all metallic vapors from the retort, and no danger exists in opening the same. Thus the operation is complete. The use of superheated steam seems to have effected the long sought solution of the problem of perfectly preserving, not only the workmen from the baneful attack of mercury, but also effects a great saving of the previous unavoidable loss of this agent, so largely used on this coast.

[Written for the Mining and Scientific Press.]

Sierra County Mines.

[Continued from Page 290.]

In a westerly direction from the belt of magnesian rocks in which the Sierra Buttes mine occurs, we find adjoining and lying parallel to it a powerful belt of a whitish compact limestone; on leaving which we strike the ordinary silicious and clay slates, metamorphosed and often freely laminated. These slates are traversed by numerous veins of quartz, which give little or no indication of being auriferous. This formation is continuous, crossing its line of strike for about five miles, when a belt of limestone (hydrocalcite) is seen adjoining a granular quartzose mass. On the west, between the latter formation and the slates, auriferous veins of quartz occur; their strike the same as the surrounding rocks—N. 10° W.—magnetic. Galena appears to be the predominating ore, associated with iron, arsenic, and auriferous copper pyrites. Workings and developments on the

KANAKA MINE.

Located on a powerful and heavily mineralized vein, varying from four to sixty feet in width, in depth 160 feet vertical, have demonstrated that in depth, arsenical manganese, to a certain extent, replaces the auriferous ores, reducing the average yield. For about 100 feet in depth the ores averaged, by simple amalgamation, in free gold, from fifteen to twenty dollars per ton. This zone or plane appears to extend horizontally into the hill or mountain, which rises rapidly, affording constantly increasing backs. Below this level, the ore, as I previously stated, rapidly depreciated. It is quite probable, however, that when the main adit level shall have been driven into the hill, a better class of ores will be struck, the vein being powerful and heavily mineralized; in fact, the face of the adit shows a decided improvement. The company have a fine new mill of twenty stamps, propelled by water-power. That this vein is continuous for from five to six miles, has been demonstrated by several recent discoveries on its line of strike—good prospects having been obtained, and locations made, but no developments as yet. Thence westerly, through a country slightly metalliferous for five miles, we reach an important mineral belt in the vicinity of Downieville, consisting principally of talcose slate, in places indurated and changed, so that its slaty structure is completely lost; showing evidence of powerful heat, which has, undoubtedly, occasioned the metamorphic changes observed. A mass of volcanic brecciated and cemented material appears to have flowed from a fissure in close proximity to the town of Downieville—an independent volcanic vent. This mineral belt is about two miles in width, and is reticulated by veins and threads of gold-bearing quartz, with a general northerly and southerly trend. The line of demarcation between the metalliferous and non-metalliferous regions is plainly drawn and easily traced—not only by the change in the color of the soils, but a marked change in the vegetation. In the metalliferous belt, the formation, its veins of quartz, and subsoils, are discolored and stained by the oxydation of its metalliferous contents; on the surface the soils invariably show the presence of gold by the horn test, particularly when near a metalliferous vein. The slates are often found rich in pockets; the veins, as a rule, belong to that class of auriferous deposits known as segregated and contact deposits, with few exceptions. An important and powerful deposit of the former class passes diagonally through the upper portion of the town of Downieville, and has, undoubtedly, contributed in a great measure to the unparalleled richness of its placers, which formerly yielded munificently, showing their greatest richness a short distance below the vein. This deposit or vein is traceable for nearly four miles in a northerly and southerly direction. Its ores are auriferous iron pyrites, of a very rich class, some of them, when concentrated, yielding by assay as high as eighteen hundred dollars per ton, and rarely going under two hundred. By an imperfect and crude system of amalgamation, they have paid

from eight to thirty-two dollars per ton of free gold. The advantages for heavy backs and unlimited water-power, are unsurpassable. Of the principal developed properties, we find the Gold Bluff the most northerly; thence, southerly, the Montpelier, the Oro, and the Slug Cañon. Of unimproved and undeveloped locations, there are quite a number which give promise of being made reliable properties, with a reasonable expenditure of capital.

Near the easterly line of contact with the non-metalliferous silicious slates, discoveries have been recently made of a continuous vein, or series of parallel veins, containing a very rich auriferous arseniuret of iron (mispickel), traceable for some three miles in a northerly and southerly direction. The formation is a highly mineralized indurated talc, in places quartzose, bearing a strong resemblance to that of the Crescent mine of Indian Valley. The metalliferous veins, proper, vary from eight inches to six feet in width. Locations have been made to some considerable extent. The ores by assay show large returns. This discovery bids fair to prove of considerable importance. The main difficulty the mine will have to contend with will be the intractable and rebellious nature of the ore; arsenic and its compounds being the amalgamator's worst enemy—"sickening," or "flouring" and coating the quicksilver to such an extent as to render it almost useless for amalgamating purposes. The ores will have to be roasted and chemically treated in order to extract the gold. Other veins of a similar character and great richness have been recently discovered.

THE MAMMOTH

Lies west of the segregated vein previously described, and near the westerly boundary of the talcose belt, at its junction with an extensive belt of serpentine, which is traceable through the entire State. This vein is found much broken and crushed, but lying in place with an easterly dip at a considerable angle of inclination. Its power is from three to six feet. The main deposits of mispickel ores lie on or near the foot-wall. Near the croppings the ores are found much decomposed, and the gold is free. With no other machine but a miner's washpan, from two hundred to three hundred dollars per day has been extracted from the superficial decomposed ores. The proprietors are now sacking them for shipment to San Francisco for reduction. This vein has been opened in several places at considerable distances apart, and good prospects obtained, proving it to be extensive.

THE GOOD HOPE COMPANY

Have been quarrying ores and crushing at a custom mill for some three or four months, the ores yielding from twenty to thirty dollars per ton. Vein well defined; gold free and very fine (flour gold), associated with iron pyrites in small cubes.

There are many other locations of note in this vicinity that are being vigorously developed with encouraging results—the Sailor, Mexican, Junction, etc., etc. In fact, the recent rich discoveries have given new life and an impetus to this branch of business; and it is safe to predict that this group of metalliferous veins will be rapidly developed, and at no distant day prove an important acquisition to the mineral resources of our State.

While in Downieville, I had the pleasure of seeing a cabinet collection of minerals, principally of Sierra county ores, at the Mining Agency and Assay office of Crossman & Cochran, of which I saw a descriptive catalogue in a late number of the Press. This is a move in the right direction, and the example should be followed in every mining locality in the State.

VIAJADOR.

To DETECT COPPER IN PICKLES.—Cut up some of the pickle in thin slices and put them into a vial, with sufficient liquid ammonia, diluted with half its quantity of water, to cover them. Shake thoroughly. If the most minute quantity of copper is present, the liquid will assume a blue tint, of greater or less intensity, according to the quantity of copper present.

ONE hundred and sixty-one miners, says the Nevada Gazette of December 3d, have been assessed in this county, since the first of May last, as liable to pay the mining license of ten dollars. The law under which the license is levied reads as follows: "Every person, firm or company, who shall employ others in the business of mining for coal, gold, silver, copper, lead, iron, zinc, or other minerals, not having paid the tax therefor as a manufacturer, and no other, shall be regarded as a miner; provided, that this shall not apply to any miner whose gross receipts as such shall not exceed annually one thousand dollars."

PROCESS OF ROASTING ORES, ETC.

Translated from the German of F. Plattner, for the Mining and Gas-Light Journal, New York.

BY J. H. TIEMANN, M. E.

NUMBER FOUR.

When, on the contrary, the heat comes from the hearth of the furnace, it often happens that the ore sinters (cakes), in which condition it adheres as firmly to the hearth as if it had been smelted. Although this may be overcome to a certain extent by constant stirring with the roasting rake and scraper, there is still another disadvantage, viz.: that the heated under portions of the ore upon coming to the surface are too much cooled by the cold air, in consequence of which the oxydation of the sulphur metals and the roasting is very irregular, and a quantity of large and small lumps are formed, which latter often contain large quantities of undecomposed ore. It is thus shown, that for such ores or products as are inclined to sinter (cake) in roasting, an ordinary reverberatory furnace is better adapted than a muffle furnace, and that a constant stirring of the ore with the roasting rake, especially in the first part of the process when the oxydation is the liveliest, is absolutely necessary.

On the other hand, when the ores or products to be roasted consist of such sulphur or arsenic metals which do not easily incline to sinter, a muffle furnace may be used as well as a reverberatory, when in the former the requisite amount of heat can be produced. Neither is it necessary (except in certain cases which will be noticed hereafter) that the substance to be roasted should be so constantly stirred as those which sinter easily; in fact, it would be wrong to do so with sulphur metals which roast at a high temperature, as for instance zinc-blend, because the oxydation having been commenced might be thus easily retarded, especially where the substance is roasted in a muffle furnace. A particular method for each different case is not possible, for here, as in most other processes, practice is the best teacher.

II. Practical examples of the formation of sulphates, arsenates, antimonates and free oxyds, in the roasting of sulphur metals or sulpharsenic and arsenic metals.

A few examples taken from practical tests will serve to show distinctly that ores or mill products, consisting of sulphur metals or sulpharsenic with arsenic metals, when roasted either in large quantities in a reverberatory furnace with a horizontal hearth, built in accordance with the foregoing principles, or in smaller quantities on a clay dish in a muffle, with a proper addition of atmospheric air, and at the lowest possible temperature, always show an inclination, according to their chemical composition, to change the sulphurets, arsenates or antimonates, and the resulting sulphates, upon an increase of temperature, are more or less decomposed, and in the same ratio change to free oxyds.

A. Examples of the deportment of different ores and mill products, when roasted in a pulverized form in a reverberatory furnace, or in small quantities in a muffle.

1. Schwefelkies (iron pyrites), when pulverized and exposed to a temperature sufficient to ignite sulphur, and the requisite amount of air is admitted, soon begin to glow, and in some places burn with a flame; the glow soon spreads throughout the entire mass, and in consequence of the oxydation of the sulphur and iron, sufficient heat is generated at those points where the air with all its oxygen comes in contact with the ore to drive off nearly the half of the sulphur from those parts with which it does not come in direct contact.

If the glowing mass of ore be stirred, so that gradually all the different parts come in contact with the air, an increase of temperature is apparent, and in consequence of the generation of gas and steam, and a general change in the whole mass, an increase of the volume—it becomes "wooly"—so that, if the roasting has been carried on in a reverberatory furnace, it flies in every direction from the rake or whatever instrument may be used for stirring, no matter how slowly or carefully the instrument is moved. The sulphur of those parts of the pyrites with which the air comes in direct contact, burns quickly to sulphurous acid which passes off as a gas, while the sulphur which is driven off by the heat generated by the oxydation, either burns in like manner to sulphurous acid when the heat is sufficient and there is no lack of atmospheric air; or when the heat is not sufficient, it escapes partly in the form of vapor. In the same ratio as the oxydation of the iron and sulphur approaches completion, the temperature and the wooly appearance of the ore decrease, so that finally the red glow disappears, and the roasted ore, if not heated by fuel, appears almost black.

but when entirely cool assumes a light red color. The product of such a roasting consists of free oxyd of iron, and a small amount of basic sulphate, very often but 0.4 to 0.5 per cent. of sulphuric acid is found in it, which, if we think of it in combination with the oxyd, would give 1.3 to 1.6 per cent. of simple sulphate of iron. If the mass be again heated to a glow with fuel, it swells again, becomes woolly, and as the oxyd of iron is a weak base for sulphuric acid, it changes almost entirely to free oxyd, the sulphurous acid going off as a vapor. If the heating be effected by means of a flammable fuel, which carries out or ignites reducing gases to the glowing oxyd, a part of the latter is changed to a combination of sesquioxyd with protoxyd, which, after cooling, is almost black and is attracted by the magnet. The quantity of this compound is the greater, the less the amount of air admitted to the roasting chamber between the flame and the already formed oxyd.

2. Magnetites (magnetic pyrites) Fe S , Fe S_2 or Fe S , Fe S_2 , when exposed in a powder, and by admission of atmospheric air, to a dark-red heat, glows gradually, evolves sulphurous acid, and changes, especially when constantly stirred, to a spongy sesquioxyd of iron, which, on cooling, has a red color, but contains a little sulphate and persulphate. If this red product is heated further to a bright red heat, the protoxyd is oxydized, at the expense of the sulphuric acid, to sesquioxyd, and free sesquioxyd and sulphate is formed, while sulphurous acid passes off; the sulphate forms now but a small percentage of the mass, and if the roasting be continued, decomposes almost entirely to free sesquioxyd and sulphuric acid. If the under layer of the gaseous products of combustion was free from unignited and consequently reducing particles, the product on cooling resumes its red color, otherwise it retains more or less of its dark color, and as it contains sesquioxyd, is attracted by the magnet.

Note.—Should any one desire to convince himself of the amount of heat generated by the oxydation of an easily oxydizable metal, it is only necessary to take metallic antimony or arsenic. If a piece of the former of the size of a pen be heated on charcoal before the blow pipe till it smelts, and the heat continued till the fluid metal is red hot and gives off fumes, and the heating be then discontinued, the metal continues for a long time in a fluid state, evolving thick white fumes, which at first settle on the coal, finally on the metallic globule, in mother of pearl colored needles, which are thus explained: The fluid metal absorbs oxygen from the air, forming an oxyd of antimony, generating thereby sufficient heat to retain the easily fusible metal in a state of fusion, which continues till the globule has been completely surrounded by the oxyd. Metallic arsenic, when heated in the same way, changes to arsenious acid.

The Meussdorffers.

We copy the following from the *Mountain Messenger*, published at Downieville. We have known the parties mentioned long and favorably, and can say the compliment paid them is a just one:

The unwritten history of many an early pioneer in California, if properly embellished by one of our popular authors, would make a volume of surpassing interest. The subjects of our sketch are the well known batters of that name, whose trade dates back successive generations from father to son, two hundred years, to the old home in Germany, where the ancestral father still resides, and in whose possession are still retained the rule tools made use of by the different families from the eldest Meussdorffer down to the present century. About the year 1841, the elder brother, J. C. Meussdorffer, left home to try his fortune and learn what he might in the extensive and fashionable establishments of Paris. Having remained in the largest establishments and acquired the skill of the French artists, in 1845 he came to New York, traveled and worked at his trade through the principal cities of the East, till the year 1849, upon the discovery of gold in California, he joined the Overland emigration, enduring the hardships incident to those perilous times from raids by Indians, exposure and starvation. He arrived at Sacramento in the fall of that year, and after several fortunes rapidly as easily made and lost at mining, he again resumed business as a hatter. Times were flush, and by catering to the peculiar tastes of the early miners in fashioning their "fles," he made money rapidly, and had gained an extensive business, when the cholera of the fall of '49 commenced its ravages, decimating the population, closing the doors of the community, and draping them in mourning. So malignant and rapid was its course, that many retiring in health at night were ready for the shroud and the hearse ere the daybreak of another morning.

With others the subject of our sketch broke up his establishment and fled, locating himself at San Francisco. Fortune smiled again, and in '53, having succeeded to a large business and comparative independence, he sent for his brother Konrad, and in '58 for Henry, while Martin, the youngest brother, arrived in 1860. Business in the meantime increased rapidly, and branch establishments were opened at Marysville, Sacramento, New York, Paris and Portland, all of which are still doing a prosperous business. It is hardly necessary to mention that these men excel at their trade, that they are close calculators and honorable business men. That through liberal and judicious advertising they became known throughout every county and town in the State; while as skilled artists they have modeled the fashions, led the trade, and extended their influence beyond the limited confines of the Pacific. Three of the five hats lately on exhibition at Sacramento, designed for the Paris Exhibition of 1867, were of their manufacture, and go there to challenge all nations for the prize. Having been acquainted respectively with these brothers, mostly during their residence at Marysville, and had dealings with them for several years, their name and the reputation of their work have become familiar to all our readers.

Scientific Miscellany.

SINGULAR PHENOMENA.—If polished discs of dissimilar metal—say zinc and copper—be brought into close proximity, and kept there for some time, and either of them has irregularities upon its surface, a superficial outline of these irregularities is traceable upon the other disc, and vice versa. Many theories have been suggested to account for this phenomenon; but whether it be due or not to thermic radiations, the relative temperature of the discs, their relative capacities, and conducting and radiatory powers for heat, are thought, beyond a doubt, to influence the phenomenon.

Again, if two such discs, in close proximity, be connected with a delicate electroscope, and then suddenly separated, the electroscope is perceptibly effected; showing that the reciprocal radiation from surface to surface has produced electrical force.

The term "thermographic" has been applied to this class of phenomena, and although these singular effects are generally attributable to radiant heat, the real origin thereof is still considered a question open to doubt, and an interesting matter for careful philosophic experiment.

TRANSCALESCENCE is a term applied to bodies expressive of their powers of transmitting heat, and their transparency. This power is possessed by various bodies in different degrees; for instance, perfectly transparent alum arrests more heat than quartz rock, so dark colored as creta to be opaque. Rock-salt has thus far proved to be the most transelescent to heat of any known substance. It may be covered with soot until it is perfectly opaque, and it will still be found capable of transmitting a very considerable quantity of heat. Philosophers have devised a very ingenious instrument for accurately measuring the different amounts of heat which bodies will thus transmit. The instrument is called a *thermo-multiplier*, from the fact of its action being due to its ingenious arrangements for multiplying the forces of thermo-electricity.

TO TEST THE PURITY OF CHLORIDE OF GOLD. The chloride of gold and sodium in its pure state is easily soluble in alcohol, while free chloride of sodium is not. If, therefore, the gold salt contains some free chloride of sodium, the latter will remain undissolved upon treating it with alcohol. Much of the chloride of gold and sodium sold to the photographic artists is adulterated by adding an excess of sodium, which is of very small cost; while the photographer pays for it at more than the price of gold. The above method of detecting such adulteration, which is simple and within the reach of every one, will be useful information for photographers.

OLD COLLODION.—Humphrey's *Journal* says that old collodion may be rejuvenated and made useful in the following manner: Add alcohol and ether in equal parts—or a mixture of one-third alcohol and two-thirds ether is still better—until the collodion flows easily and is thin enough to coat the plate without streaks; furthermore, to each quart of collodion add sixty grains of bromide of cadmium, and put the mixture, after frequent shaking, in a cool, dark place. This collodion probably will become colorless, and work as well perhaps as the best new collodion that can be made.

COLORS GLASS, when heated so as to be luminous, emits the same light which, at ordinary temperatures, it absorbs; thus, red glass gives out or radiates, when heated, a greenish light, and green glass a red light. This phenomenon is due to the long known principle, that the radiating power of different substances is directly proportionate to their absorptive, and inverse to their reflective power.

It is said that common salt, which, when mixed with animal substances in large proportions, arrests decomposition, when used in small quantities considerably accelerates putrefaction.

CAUTION.—Tomatoes placed upon a newly-painted shelf to ripen will take up the lead in such a force as to make it poisonous. This should be remembered.

THE REDUCTION OF SILVER OXYD BY CADMIUM.—Silver oxyd is easily reduced to the metallic state by means of cadmium. A solution of nitrate of silver is evaporated with sulphuric acid until all the nitric acid is driven off. The sulphate of silver is then dissolved in hot water, and a stick of cadmium is placed in the solution. The reduction of the silver oxyd proceeds immediately, the metallic silver is easily separated from the cadmium, and collected in a mass which can be washed by decantation with hot water without loss. A porcelain crucible, the weight of which has been previously ascertained, will serve to effect the reduction in. As the reduced silver may possibly have a little cadmium mixed with it, it is well to heat the acid liquor until no evolution of hydrogen takes place. In the clear liquid which remains not a trace of silver can be recognized. The reduced silver is now washed until the washings give no precipitate with chloride of barium, then dried, and lastly ignited, by which the greyish black of the precipitate is changed to silver white.

The reduction of silver compounds by means of cadmium goes on very quickly, and as cadmium is but slightly soluble in dilute acids, the same piece of metal will serve for several operations, without even losing the metallic luster of the surface.

Freshly-precipitated chloride of silver may be treated in the same way.

The *London Review* observes that M. Melseus has recently presented a note to the French Academy showing that two salts having no chemical reaction on each other, and each of which may be administered to an animal in succession without danger, may, if given simultaneously, be productive of death. M. Melseus gave dogs daily large doses of iodide of potassium without injury. He did the same with chlorate of potash. Iodate of potash is rapidly fatal to dogs. Although iodide of potassium and chlorate of potash have no chemical action on each other under ordinary circumstances, if given simultaneously to a dog they quickly destroy life. These experiments evidently have an important bearing on the art of prescribing remedies, for they show that medicaments, perfectly inoffensive in themselves, may, by being compounded together, and thus brought in contact in the laboratory of the animal frame, give origin to a poison rapidly fatal to life.

MONSIEUR CHENOT'S "IRON SPONGE" is used to effect the desulphuration and dephosphuration of ores. It is made by reducing dry ores of iron with carbonic oxyd. The pulverized ore is mixed with the "sponge," and then treated in a reverberatory furnace with a covering of charcoal powder. A previous roasting is not necessary. The cost of this method is said to be much less than that of any other.

The retina decomposes the rays of light in a different manner from that in which the prism decomposes them. The latter disperses the rays with reference to different points of space; the former with reference to different points of time. So says M. Laborde in a late communication to the Academy of Sciences.

The production of pure iron is impossible when phosphorus is present. Carl Wintzer, a Hanoverian, has found that chlorine gas and chloride of calcium will effect its removal. By their means volatile combinations of phosphorus are formed, which are easily expelled.

TO DETECT PAPER MADE FROM WOOD.—Wood shavings are now extensively used for the manufacture of paper. To ascertain whether a given kind of paper contains wood, it is dipped in a warm solution of aniline and dilute sulphuric acid, when it will be immediately colored orange if wood be present. The more intense the color the greater the proportion of wood.

If an iron wire be twisted during or even after the passage of a voltaic current through it, the wire becomes magnetic. When the wire is twisted in the manner of a right-handed screw, the point at which the current enters becomes a south pole; in the opposite case it becomes a north pole. If, during the passage of the current, the wire be twisted in different directions, the polarity changes with the direction of the twist.

A NEW METHOD for manufacturing gas by introducing petroleum with lime water into the retorts when charged with coal, has been patented. It is claimed that the cost of the gas is 30 or 40 per cent. less than when made with coal only.

ARTIFICIAL LIGHT FOR VEGETATION.—Plants grown under the light of the electric lamp show that their green color is equally capable of being produced under the influence of such light as under that of the sun.

Mechanical.

EXPANSION OF GRATE BARS.—At a late meeting of the Austrian Society of Engineers, grate bars were produced which had suffered an expansion of 0.08 of a metre in every metre. This expansion had taken place not only longitudinally, but in all directions, and was ascribed to the transgressions of the limits of elasticity by a long application of a high temperature. Experiments are now being conducted for the purpose of ascertaining the laws in reference to this permanent "set."

SILICATES.—A NEW AND VALUABLE MORTAR. M. Artus proposes a method of preparation by which the process of silication is much favored; by which, it is said, a mortar may be prepared which becomes as hard as cement, does not crack in setting, and may even be used as a hydraulic cement under water. His process is the following: Take good slaked lime, and mix it with the utmost care with sand finely sifted. Mix the sand thus prepared with finely powdered quicklime, and stir the mixture thoroughly. During the process the mass heats, and may then be employed as mortar. Of course the mixture must be used just as it is to be used.

"One part of good slaked lime was mixed with three parts of sand, and to this was added three-fourths of its weight of finely powdered quicklime. The mortar thus made was used in a foundation wall, and in four days had become so hard that a piece of sharp iron would not attack it. In two months it had become as hard as the stones of the wall."—*Franklin Institute*.

LOCOMOTIVE CONSTRUCTION.—A gradual increase is being made in the size and power of locomotives, and for high-speed engines the weight is now considerably in excess of that required for adhesion—high-speed engines being those in which the least weight consistent with efficiency is of the most importance. The steam pressure, too, is being gradually increased; but this, of course, is not attended with a saving of weight, except as the steam may be worked more expansively, and a greater amount of power thus obtained from a given quantity of steam.

Mr. John P. Laird has recently introduced an engine, with a patented improvement, the application of which has proved very successful on the Pennsylvania Central Railroad. We are not informed in what his improvement consists; but it has for its object increased adhesion and motive power, and saving of weight. The result is said to be that a small engine made after his plan will easily haul a train over the mountains that would require two of the large "camel back" locomotives in ordinary use.

CEMENTS.—The following recipes will be found to produce very hard and durable cements: 1. Four to five parts of powdered clay are mixed with two parts of clean metallic iron filings, one part of peroxyd of manganese, one-half part of salt, and one-half part of borax. All these ingredients must be well powdered and mixed and must be made into a paste with water. The cement must be used up quickly. Applied to the parts to be cemented, it is first dried at a slowly-rising temperature and finally exposed to white heat. The cement then is hard, resembling slag, and resists boiling water and red heat. 2. A similar durable cement may be prepared by mixing finely-sifted peroxyd of manganese and carbonate of zinc with soluble glass to this paste. It has to be used up rapidly.

A SINGULAR QUALITY IN STEEL.—A correspondent of the *Scientific American*, says that he was informed by a practical mechanic, that having made a spatula, or pallet knife, such as is used by artists, and tempered it to the blue, or spring temper, he ground and polished it, when it became as soft as before tempered. Considering it worthless, he laid it one side for a time, but one day he held it over the fire, it thoughtlessly, until it was blue, when he found it had regained its former elasticity.

The fact may be new to some of our readers, although we were practically acquainted for years with this quality of steel, at least of steel of some grades. We believe, however, that cast steel, generally, when brought to the blue temper, loses some of its elasticity if the blue is removed from the surface. Why, we do not profess to determine, but the experience of many workers in steel will confirm our own.

HOW TO PRODUCE A HARD CASTING.—Mr. Ganz, of Hungary, covers the inside of the molds, which in this case must be of iron, with a thin coat of paste made of a finely powdered metallic antimony and alcohol, and dried at 212° Fahr. An ordinary regulus of antimony will answer. The castings thus become covered with an extremely hard alloy of antimony and iron.

WEEKLY STOCK CIRCULAR

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING,
December 8, 1886.

MONEY MARKET.

The course of the money market since our last reference has been comparatively steady. The supply of capital seeking employment has increased, however, and the banks have now larger balances in hand than for some time past. As yet these influences have scarcely produced any tangible effect upon the discount market, and the regular rate in bank is $1\frac{1}{4}$ per cent. per month. Loans have been negotiated during the week upon merchandise and other very choice securities at 1 per cent. per month; but these are exceptional transactions. The continued buoyancy of the Mining Share Market calls for the use of considerable money among operators, and full rates are obtained by capitalists in their accommodations to this class of dealers.

Legal Tender Notes have been inactive during the week, selling at $71\frac{3}{4}$ @ 72 ; at the close yesterday $71\frac{1}{2}$ was bid. June 7-30's sold at $77\frac{1}{2}$ @ 78 . Latest telegraphic advices from New York quote gold at $139\frac{1}{2}$, and Sterling Exchange at $109\frac{1}{4}$.

Gold Bars rule at 840 @ 850 ; Silver is selling at 1 per cent. discount. Currency Bills on the East are offered at 32 per cent. premium on Gold, and Telegraphic Transfers are made at $2\frac{1}{2}$ per cent. premium. Sight Drafts, payable in coin, are selling at $2\frac{1}{4}$ per cent. premium. Sterling $48\frac{1}{2}$ @ 49 .

The Customs Receipts in this city, from January 1st to December 5th inclusive, amounted to \$6,891,037.33.

City Stocks are in better favor. San Francisco Gas Co. was largely dealt in at $63\frac{3}{4}$ @ $64\frac{1}{4}$; Spring Valley Water Co. sold at $60\frac{3}{4}$ @ 61 ; California Steam Navigation Co. at 66 @ $65\frac{1}{2}$ per cent., and Pacific Insurance Co. at \$179 per share.

The law relative to mineral lands, passed at the last session of Congress, proving to be very defective in many respects, has been thoroughly revised by the author, Senator Stewart of Nevada, assisted by a number of our more prominent officials connected with various mining companies, and in this form it will go forward by the steamer of the 10th instant, to be laid before Congress at its present session. We understand that very important changes have been made in many of its provisions.

MINING SHARE MARKET.

The Mining Share Market has attracted more attention this week than at any time during a like period within the past six months, and all first-class shares show a marked improvement since our last reference. The substantial character of recent developments in a number of claims, together with the dividends that are being regularly paid to stockholders, are tempting parties to enter the market who have kept aloof for a long time. The cash requirements for the heavy transactions during the past week have been very considerable, the business of the Board alone averaging nearly \$200,000 per day. As most of the purchases are for home account, these balances only change in name, neither augmenting nor decreasing the volume of money at present in the market. The late developments on the lower levels of the Comstock lode have established a high degree of confidence in the permanency of these mines, and the plan of a deep draining and working tunnel, heretofore proposed, is looked upon with much favor. The mining companies have been called upon to contribute a portion of the requisite funds, and a strong disposition prevails among stockholders, particularly those of the paying mines, to contribute liberally and promptly, so that this desirable work may at once be commenced. It is believed that with a portion of the capital thus obtained, and the tunnel fairly under way, the bulk of the requisite funds will be furnished by New York.

HALE & NORCROSS.—No sales during the week; \$2,000 @ $2,250$ is bid, and \$2,500 asked. The 65 per cent. assay value of 3,085½ tons of ore, produced during the month of November, gives the company \$175,134.62, equal to nearly \$57 per ton, and is the largest monthly yield of this company yet reported. The September returns amounted to \$152,363.74.

SAVAGE.—Sales during the week, 80 shares; opened at \$1,890, advanced to \$1,960, receded to \$1,900, then sold at \$2,000, and closed at

\$2,110. During the week ending December 1st, 1,250 tons of ore were extracted, assay value \$52,666, leaving an estimated profit of \$26,181 after deducting all expenses. The yield is not so large as the previous week, from the fact that the force of men employed were placed at work other than that of extracting ore. In the upper stations the quality is said to have improved, with no change in the quantity. Winze No. 3 is in fine ore at 40 feet below the 6th level. The north drift from the Cortis shaft is now nearly under Winze No. 3, and in good ore. It is the intention of the company to make a level connection with the 7th station works from the old shaft, about 150 feet distant, for which purpose work in the drift is vigorously prosecuted. Receipts of Bullion for November up to this time amount to \$225,000. A dividend of \$100 per foot was declared yesterday, payable to-day. This company have a surplus of about \$50,000, besides between 4,000 and 5,000 tons of ore in the mine, and all expenses paid for mining it.

CROWN POINT.—Sales during the week, 17 feet; opening at \$1,035 @ $1,075$, advancing to \$1,300 @ $1,250$, and closing at \$1,190. The yield of ore during the week ending December 1st has been larger than usual, amounting to 835 tons. The vein on the 400-foot level is said to be improving. The drift east from the 400-foot level is still in vein matter, and has attained a distance of 174 feet.

YELLOW JACKET.—Sales during the week, 256 shares. This stock sold at \$1,125 @ $1,170$ early in the week, advanced steadily to \$1,450, receded to \$1,175, then sold at \$1,350, and closed yesterday at \$1,330. We are unable to gain any information about this mine. No reports, either weekly or monthly, have been forwarded to the office in this city as promised.

GOULD AND CURRY.—Sales during the week, 22 feet; advancing from \$500 @ 515 to \$600 @ 610 , and closed at \$650. During the month of November about 5,350 tons of ore were extracted from the mine, of which 2,200 tons were delivered to the Gould & Curry mill, and 2,600 tons to custom mills. The bullion produced during the same period amounted to \$124,683.61; in October, \$114,321.67. The latest advices from the mine state that the water is being rapidly reduced, and that drifting had been resumed on the lower level. The annual meeting of stockholders takes place on the 17th inst.

OPHIR.—Sales during the week, 221 feet; opened at \$215, improved to \$290, receded to \$210, rallied to \$250, and closed at \$235. The shaft is now 90 feet below the 9th gallery. In the drifts north and east on the 9th level, small bodies of low grade ore have been found.

CHOLLAR-POTOSI.—Sales during the week, 649 feet; improved from \$221 to \$250, receded to \$250, and closed yesterday at \$232½. The north drift in the first station of the new shaft is in 296 feet, and has about 250 feet to run to reach the north line; nothing favorable so far. The recent development in the south drift, is said to be at present only two feet wide. During the week ending Dec. 1st, 726 tons of ore were sent to custom mills.

EMPIRE MILL AND CO.—Sales during the week, 198 shares; opening on Monday at \$150 @ 152 , gradually advancing to \$185, and at the close sold at \$220. This company pays a dividend of \$15 per share to-day, and we learn carry forward a surplus of nearly \$18,000. Within the past 90 days they have taken from their mine about 7,500 tons of ore—an average of over 80 tons per day, and have now at their dumps and at the mill over 3,000 tons. A winze has been sunk to the depth of twenty feet on the vein lately struck in their 700-foot level, with fine prospects of a valuable supply of ore. The working of this vein will be reserved for the new Empire-Imperial shaft, which is now down and timbered over 700 feet, and from which a drift to the ledge will probably be run sometime in February next.

IMPERIAL.—Sales during the week, 303 shares; fluctuated between \$127, h 30, and \$131, and closed yesterday at \$134. The stamped value of bullion received during the month of November is \$32,640.48. A "brick" valued at \$12,065 is included in the above amount, and is said to be the largest ever made in this State. The October returns aggregated \$98,380. A large amount of machinery for the Imperial-Empire shaft is now on the ground.

CONFIDENCE.—Sales during the week, 314 shares. This stock met with more than usual activity since our last reference, improving from \$70 to \$97.50, then selling at \$85 @ 90 , closing yesterday at \$90.

BELCHER.—Sales during the week, 195 feet; advancing from \$135 to \$190, then selling at \$135, and closing at \$140.

OVERMAN.—Sales during the week, 1,110 shares; ruling between \$20 @ 16 , and closing at \$14.... BULLION.—Sales, 82 shares; selling at \$15 @ 17.50 , and at the close brought \$16.... SIERRA NEVADA.—Sales, 1,430 shares; at \$2 @ 5 , closing at \$4½.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$970,214.75.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Monday, December 3.

1 shs Belcher at 147½ per foot b 10.
7 shs Belcher at 145 @ 150 per foot.
100 shs Ophir at 220 per foot.
20 shs Ophir at 245 per foot.
100 shs Ophir at 245 per foot.
44 shs Ophir at 210 per foot.
60 shs Ophir at 120 @ 240 per foot.
12 shs Ophir at 250 per foot b 30.
12 shs Ophir at 243 per foot s 10.
10 shs Spring Valley W W at 60½ per ct.
9 shs Spring Valley Water Co at 60½ p ct.
20 shs Chollar-Potosi at 230 @ 235 per foot.
3 shs Chollar-Potosi at 235 per foot.
2 shs Chollar-Potosi at 234 per foot.
5 shs Chollar-Potosi at 235 per foot, b 10.
10 shs Bullion at 17 per share.
5 shs Bullion at 17½ per share.
5 shs Imperial at 127 per share.
5 shs Imperial at 128 per share.
10 shs Yellow Jacket at 1225 per foot.

AFTERNOON SESSION.

100 shs Ophir at 270 per foot b 30.
44 shs Ophir at 275 per foot b 30.
200 shs Ophir at 260 per foot, c.
1 sh Belcher at 150 per foot c.
1 sh Belcher at 165 per foot c.
3 shs Belcher at 170 per foot, s 3.
50 shs S. F. Gas Co at 63½ per cent.
10 shs Chollar-Potosi at 245 per foot s 30.
5 shs Chollar-Potosi at 250 per foot s 30.
7 shs Chollar-Potosi at 240 per foot c.
10 shs Chollar-Potosi at 250 per foot c.
16 shs Empire M & M Co. at 150 per sh.
16 shs Empire M & M Co. at 152 per sh.
20 shs Confidence at 70 per share b 30.
5 shs Confidence at 67½ per share c.
25 shs Confidence at 65 per share c.
6 shs Cal Steam Nav Co at 65½ per ct.
3 shs Imperial at 129 per share.
2 shs Savage at 1900 per foot, s 30.
7 shs Savage at 1960 per foot.
1 sh Yellow Jacket at 1340 per foot b 30.
Amount of sales.....\$163,803.75

Tuesday, December 4.

1 sh Belcher at 195 per foot b 30.
1 sh Belcher at 182½ per foot s 10.
31 shs Belcher at 182½ @ 187½ per foot.
216 shs Ophir at 290 per foot.
60 shs Ophir at 235 @ 270 per foot.
60 shs Ophir at 270 @ 275 per foot.
5 shs Cal. Steam Nav. Co. at 65½ per cent.
4 shs Gould & Curry at 600 per foot.
5 shs Yellow Jacket at 1400 per foot.
5 shs Yellow Jacket at 1450 per foot.
16 shs Yellow Jacket at 1450 @ 1400 per foot.
7 shs Yellow Jacket at 1400 @ 1410 per ft.
1 sh Yellow Jacket at 1405 per foot s 30.
1 shs Yellow Jacket at 1430 per foot b 30.
1 sh Yellow Jacket at 1432½ per foot, b 30.
20 shs Chollar-Potosi at 248 per foot.
25 shs Chollar-Potosi at 225 per foot.
6 shs Chollar-Potosi at 235 per foot b 30.
20 shs Confidence at 80 per share.
10 shs Confidence at 82½ per share.
15 shs Confidence at 85 per share, b 30.
5 shs Imperial at 130 per share, b 14.
20 shs Imperial at 128 per share.
25 shs Imperial at 129 per share.
20 shs Crown Point at 1300 per foot.
4 shs Crown Point at 1530 per foot s 10.
1 sh Savage at 1970 per foot h 10.
2 shs Savage at 1940 @ 1950 per foot.
1 sh Savage at 1990 per foot, b 30.
2 shs Savage at 1950 @ 1920 per foot s 30.
2 shs Savage at 1940 @ 1945 per foot b 10.
4 shs Empire M & M Co. at 150 per share.
5 shs Overman at 19 per share, s 10.
10 shs Overman at 18½ per share s 3.
42 shs Overman at 19½ @ 21 per share.
40 shs Overman at 21 @ 20½ per share.
18 shs Bullion at 17 per share.
10 shs Bullion at 18 per share, b 30.
\$5,000 U S 7-30, June issue, at 77½ @ 78½.

AFTERNOON SESSION.

50 shs Confidence at 85 per share.
50 shs Confidence at 97½ per share.
10 shs Confidence at 97½ per share.
13 shs Confidence at 95 per share.
100 shs Ophir at 267½ per foot, b 30.
92 shs Ophir at 240 per foot.
20 shs Overman at 20 per share, b 30.
10 shs Overman at 19 per share s 10.
10 shs Overman at 18 per share.
10 shs Overman at 19 per share.
240 shs Sierra Nevada at 2 per share.
4 shs Crown Point at 1250 per foot.
10 shs Chollar-Potosi at 221 per foot.
5 shs Chollar-Potosi at 210 per foot.
20 shs Chollar-Potosi at 220 per foot b 30.
6 shs Chollar-Potosi at 210 pr ft, s 30.
6 shs Chollar-Potosi at 210 per foot.
6 shs Chollar-Potosi at 215 per foot.
15 shs Chollar-Potosi at 220 per foot h 10.
11 shs Belcher at 157½ @ 194 per foot.
7½ shs Belcher at 160 @ 162½ per foot, s 30.
11 shs Belcher at 195 per share b 30.
2 shs Belcher at 165 @ 170 per foot, h 30.
9 shs Empire M & M Co. at 160 per share.
8 shs Gould & Curry at 600 per foot.
4 shs Gould & Curry at 595 per foot.
4 shs Gould & Curry at 610 per foot, b 30.
20 shs Bullion at 17 per share.
10 shs Imperial at 129 per share.
11 shs Yellow Jacket at 1400 @ 1350 per foot.
2 shs Yellow Jacket at 1400 per foot, b 30.
4 shs Yellow Jacket at 1350 per foot.
1 sh Yellow Jacket at 1370 per foot
Amount of sales.....\$192,431.50

Wednesday, December 5.

8 shs Gould & Curry at 615 per foot, b 30.
4 shs Gould & Curry at 610 per foot.
20 shs Overman at 16½ per share s 30.
45 shs Overman at 18 @ 16½ per share.
100 shs Sierra Nevada at 2½ per share.
1 sh Cal Steam Nav Co at 65½ per ct, b 3.
7 shs Cal Steam Nav Co at 65½ per ct s 30.
20 shs Confidence at 85 per share.
22 shs Chollar-Potosi at 215 @ 217 pr ft, b 30.
10 shs Chollar-Potosi at 205½ @ 206 pr ft, s 30.
18 shs Chollar-Potosi at 205 @ 210 per foot.

14 shs Chollar-Potosi at 210 @ 208 pr foot.
1 shs Yellow Jacket at 1225 per foot b 30.
1 sh Yellow Jacket at 1215 per foot b 30.
1 sh Yellow Jacket at 1210 per foot b 30.
2 shs Yellow Jacket at 1350 @ 1295 per ft, c.
2 shs Yellow Jacket at 1300 per foot c.
1 sh Yellow Jacket at 1290 per foot.
128 shs Empire M & M Co. at 165 @ 170 per sh.
60 shs Spring Valley W W at 60½ per sh.
6 shs Imperial at 135 per share, b 30.
16 shs Imperial at 131 per share.
18 shs Imperial at 129½ per share.
10 shs Belcher at 140 per foot, b 30.
15 shs Imperial at 131 per share.
18 shs Imperial at 129½ per share.
10 shs Belcher at 140 per foot, b 30.
10 shs Belcher at 135 per foot.
60 shs San Francisco Gas Co at 63½ per sh.
10 shs Exchequer 1 per share.
2 shs Savage at 1900 per foot.
48 shs Ophir at 210 per foot.
24 shs Ophir at 220 per foot.
12 shs Ophir at 230 per foot.
24 shs Ophir at 225 per foot.
120 shs Ophir at 230 per foot, b 30.
60 shs Ophir at 220 per foot, s 30.
24 shs Ophir at 225 per foot, b 5.
\$12,500 Legal Tender Notes at 71½.
\$2,000 Legal Tender Notes at 72c.
\$6,000 U. S. 7-30 Bonds June issue at 78c.

AFTERNOON SESSION.

200 shs Sierra Nevada at 3½ per share.
150 shs Sierra Nevada at 3 per share.
13 shs Belcher at 140 @ 150 per foot.
56 shs Ophir at 235 per foot.
26 shs Ophir at 250 per foot.
5 shs Empire M & M Co. at 185 @ 115 pr sh.
1 sh Empire M & M Co. at 165 per share.
1 sh Empire M & M Co. at 180 per sh.
1 sh Savage at 1950 per foot, b 30.
1 sh Savage at 1940 per foot, b 30.
3 shs Savage at 1920 @ 1930 per foot.
2 shs Savage at 1930 @ 1925 per foot.
6 shs Savage at 1940 @ 1955 per foot, b 10.
00 shs Overman at 17 @ 16 per share.
4 shs Yellow Jacket at 1240 @ 1275 pr ft, s 30.
3 shs Yellow Jacket at 1175 @ 1275 pr ft.
24 shs Yellow Jacket at 1275 @ 1265 pr ft.
2 shs Yellow Jacket at 1275 @ 1300 pr ft b 30.
60 shs San Francisco Gas Co. at 63½ sh.
22 shs Imperial at 130 @ 131 per share.
26 shs Confidence at 90 @ 85 per share.
Amount of sales.....\$199,455.00

Thursday, December 6.

48 shs Ophir at 245 @ 250 per foot.
30 shs Overman at 17 @ 16½ per share.
40 shs Sierra Nevada at 4 per share, s 30.
190 shs Sierra Nevada at 5 @ 4 per share.
20 shs Chollar-Potosi at 240 @ 245 pr ft b 30.
15 shs Chollar-Potosi at 232½ per foot s 30.
140 shs Chollar-Potosi at 230 @ 237½ per foot.
26 shs Chollar-Potosi at 225 @ 237½ per foot.
1 sh Belcher at 150 per foot s 10.
6 shs Belcher at 145 @ 150 per foot.
6 shs Belcher at 150 per foot, b 30.
30 shs Pacific Ins. Fund at 179 per share.
15 shs Savage at 2000 @ 1990 per foot.
2 shs Savage at 1990 per foot, s 30.
9 shs Empire M & M Co. at 130 per share.
10 shs Confidence at 95 @ 90 per share.
4 shs Gould & Curry at 610 per foot, s 30.
299 shs S F Gas Co. at 64 @ 63½ per share.
5 shs Imperial at 135 per share, b 1 d.
5 shs Imperial at 134 per share, b 10.
5 shs Imperial at 134 per share, b 5.
46 shs Imperial at 135 @ 133 per share.
4 shs Yellow Jacket at 1275 @ 1300 per foot.
6 shs Yellow Jacket at 1300 @ 1340 pr ft.
6 shs Yellow Jacket at 1240 @ 1310 per foot.

AFTERNOON SESSION.

10 shs Sierra Nevada at 4½ per share.
260 shs Sierra Nevada at 4½ @ 4 per share.
4 shs Belcher at 142½ per share.
4 sh Belcher at 142½ per share.
5 shs Overman at 25 per share s 30.
5 shs Overman at 16 per share b 10.
20 shs Overman at 16 per foot.
25 shs Overman at 15 per share.
30 shs Chollar-Potosi at 245 @ 243 pr foot.
6 shs Chollar-Potosi at 234 @ 243 pr ft.
6 shs Chollar-Potosi at 235 @ 237½ per foot.
30 shs Chollar-Potosi at 240 @ 232½ pr ft s 30.
5 shs Chollar-Potosi at 239 per foot s 30.
5 shs Chollar-Potosi at 240 per foot, b 30.
1 shs Confidence at 95 per share.
3 shs Yellow Jacket at 1300 per foot s 30.
3 shs Yellow Jacket at 1310 per foot s 60.
7 shs Yellow Jacket at 1350 per foot, b 30.
6 shs Yellow Jacket at 1340 per foot.
6 shs Yellow Jacket at 1325 per foot.
2 shs Savage at 2000 per foot.
3 shs Savage at 1940 @ 1950 per foot, b 5.
10 shs Imperial at 134 per share, b 6.
5 shs Imperial at 135 per share, b 30.
10 shs Imperial at 131 per share.
12 shs Ophir at 230 per foot.
36 shs Ophir at 240 per foot.
10 shs Bullion at 16 per share.
10 shs Bullion at 16½ per share.
Amount of sales.....\$214,477.60

Friday, December 7.

5 shs Overman at 15 per share, b 30.
25 shs Overman at 15 @ 14 per share.
10 shs Sierra Nevada at 4½ per share.
134 shs Sierra Nevada at 4½ per share.
100 shs Ophir at 230 per foot.
41 shs Ophir at 236 per foot.
4 shs Crown Point at 1130 per foot.
20 shs Chollar-Potosi at 223 per foot.
24 shs Chollar-Potosi at 223 per foot.
4 shs Confidence at 92½ per share, b 5.
4 shs Imperial at 134 per share.
3 shs Yellow Jacket at 1340 @ 1350 pr ft h 30.
1 sh Yellow Jacket at 1335 per foot, b 10.
1 sh Yellow Jacket at 1340 per foot, s 30.
1 sh Yellow Jacket at 1325 per foot s 30.
11 shs Savage at 2005 @ 2030 per foot.
22 shs Belcher at 140 @ 135 per foot.
5 shs Bullion at 16½ per share.
4 shs Empire M & M Co. at 190 @ 195 pa sh.
4 shs Gould & Curry at 635 per foot.
50 shs S F Gas Co. at 64½ per share.
50 shs Spring Valley Water at 61 per ct.

AFTERNOON SESSION.

12 shs Ophir at 235 per foot, s 10.
150 shs Ophir at 136 @ 235 per foot.
95 shs Sierra Nevada at 4½ per share.
5 shs Sierra Nevada at 4½ per share.
20 shs Gould & Curry at 630 @ 650 per foot.
32 shs Confidence at 90 @ 95 per share.
160 shs Daney at 3½ per share.
5 shs Imperial at 135 per share 15 d.
11 shs Imperial at 135 @ 134 per share.
4 shs Belcher at 140 per foot, b 5.
6 shs Yellow Jacket at 1300 per foot b 30.
5 shs Yellow Jacket at 1310 per foot, s 30.
8 shs Chollar-Potosi at 220 @ 222½ pr foot.
5 shs Chollar-Potosi at 210 per foot, b 30.
5 shs Empire Mill & M Co. at 210 @ 220.
25 shs Overman at 14 per share.
8 shs Savage at 2095 @ 2110 per foot.
1 sh Savage at 210½ per foot, s 30.
Amount of sales.....\$123,615.50

MINING SHAREHOLDERS' DIRECTORY

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME	AMT OF ASSESSMENT	DAY OF MEETING	DATE OF DELINQUENT SALE
Arbitrage M. Co. \$1.00		Dec 4	Dec 11
Adella M. Co. \$1.00		Nov 24	Dec 11
Albion River Channel B. G. M. Co. \$2.00		Dec 2	Jan 14
Belcher Co. \$3.00		Annual Meeting Dec 17	
Belcher M. Co. \$1.00		Nov 11	Dec 18
Bacon Hill M. Co. \$1.00		Nov 17	Dec 18
Colorado S. & C. M. Co.		Annual Meeting Dec 24	
Chaparral Hill G. & S. M. Co. \$1.00		Dec 10	Dec 31
Chilpanoma M. Co. \$3.00		Dec 1	Dec 17
Chilpanoma M. Co. \$3.00		Dec 1	Dec 17
Confidence S. M. Co. \$1.00		Nov 15	Nov 15
Cole S. M. Co. \$1.00		Dec 19	Jan 7
Dios Pecho G. & S. M. Co. \$3.00		Jan 3	Jan 22
Eureka, San Juan, dividend \$1.50 per sh.		Payable Nov 9	
Empire M. & M. Co. \$1.00		Nov 15	Dec 18
Empire M. & M. Co. \$1.00		Annual Meeting Dec 19	
Geo. Washington G. & S. M. Co. \$3.00		Dec 8	Dec 24
Golden Rule M. Co. dividend		Payable Nov 16	
Gold Hill Union Mill G. & S. M. Co.		Annual Meeting Dec 19	
Hale & Norcross, dividend		Payable Nov 15	
Imperial G. & S. M. Co. dividend		Payable Nov 15	
Independent M. Co. dividend		Payable Sept 1	
Iron G. M. Co. \$2.00		Dec 12	Dec 27
Jefferson G. & S. M. Co.		Annual Meeting Dec 12	
Jefferson G. & S. M. Co. \$1.00		Payable Aug 23	
Keystone M. Co. Calaveras Co. \$1.00		Jan 21	Feb 11
Kohler Bros. S. M. Co. \$1.00		Dec 23	
Lady Bell G. & S. M. Co. \$1.00		Nov 27	Dec 13
La Blanca G. & S. M. Co. \$1.00		Nov 27	Dec 13
London Q. M. Co. \$3.00		Dec 3	Jan 21
Mout Tenaho S. M. Co. \$2.00		Jan 4	Jan 22
Mineral Mountain G. & S. M. Co. \$1.00		Dec 10	Dec 31
North S. F. H. & R. Ass'n \$12.50		Nov 12	Dec 12
North S. F. H. & R. Ass'n \$12.50		Nov 27	Dec 13
North Star O. M. Co. \$1.00		Dec 10	Jan 5
Ophir S. M. Co.		Annual Meeting Dec 5	
Ophir S. M. Co. Nevada, \$6.00		Nov 19	Dec 10
Pacific Coal M. Co. \$5.00		Dec 24	Jan 21
Providence G. & S. M. Co. \$2.00		Nov 21	Dec 17
Pacific Rolling Mill Co. \$1.00		Nov 27	Dec 13
Patrolina and Dolores S. M. Co. \$2.00		Jan 8	Jan 21
Santa Cruz P. O. W. \$5.00		Jan 8	Jan 21
Salamanca G. & S. M. Co. \$2.00		Nov 24	Dec 10
San Antonio M. Co. dividend		Payable Oct 8	
San Antonio M. Co. dividend		Payable Oct 8	
San Antonio M. Co. dividend		Payable Oct 8	
Sierra S. M. Co.		Annual Meeting Dec 10	
Tulahoma M. G. & S. M. Co. \$1.00		Dec 8	Dec 24
Texas Flat M. Co. \$2.00		Dec 20	Jan 21
Yellow Jacket S. M. Co. div. \$9.50		Payable Nov 15	

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, December 7, 1886.	
UNITED STATES 7 3/10ths.	Bid. Asked.
Gov. Legal Tender Notes.	71 1/2 72
State Bonds, 7 1/2 cent.	81 3/4 82
San Francisco 10 1/2 cent.	100 102
San Francisco Bonds, 1855, 6 1/2 cent.	94 100
San Francisco Gas.	63 64
San Francisco Bonds, 1858, 6 1/2 cent.	70 72
Sacramento City Bonds, 0 1/2 cent.	19 21
Sacramento County Bonds, 6 1/2 cent.	63 1/2 64
Marquette Bonds, 10 1/2 cent.	85 86
Yuba County Bonds, 10 1/2 cent.	80 85
Butte County Bonds, 10 1/2 cent.	70 80
California Navigation Co.	85 1/2 86
State Telegraph Stock.	29 30
Sacramento City.	75 76
Spring Valley Water Co.	81 81 1/2

RAILROADS.	
Omnibus Railroad.	55 60
Central Railroad Co.	60 65
North Beach and Mission.	49 52

MINING STOCKS.	
Alpha.	\$ 60 \$ —
Bellon, G. H.	16 17 1/2
Belcher.	145 150
Confidence.	90 95
Ophir.	231 1/2 240
Gould & Curry.	620 650
Empire M. & M. Co.	195 200
Savage.	2025 2050
Colliery-Potosi.	225 230
Hale & Norcross.	2250 2250
Yellow Jacket.	1325 1335
Overman.	14 15
Crown Point.	1185 1190
Imperial.	134 135

San Francisco Market Rates.

WHOLESALE PRICES.	
FRIDAY, Dec. 7, 1886.	
Flour extra, 100 lbs.	8 25 @ 7 00
Du Superfine.	5 50 @ 8 00
Corn Meal, 100 lbs.	2 00 @ 2 50
Wheat, 100 lbs.	1 60 @ 1 90
Oats, 100 lbs.	1 35 @ 1 65
Barley, 100 lbs.	95 @ 1 00
Beans, 100 lbs.	80 @ 1 25
Potatoes, 100 lbs.	80 @ 1 25
Hay, 10 tons.	8 00 @ 15 00
Livestock Wood, 10 cord.	8 00 @ 10 00
Beef, on foot, 1/2 lb.	5 @ 8
Beef, extra, dressed, 1/2 lb.	10 @ 12 1/2
Sheep, on foot, 1/2 lb.	3 00 @ 3 50
Hogs, on foot, 1/2 lb.	7 1/2 @ 9
Hogs, dressed, 1/2 lb.	10 @ 12
GROCERIES, ETC.	
Sugar, crushed, 100 lbs.	13 @ 13 1/2
Do China.	10 @ —
Coffee, Costa Rica, 100 lbs.	25 @ —
Do Rio.	24 @ —
Tea, Japan, 100 lbs.	80 @ 90
Do Green.	60 @ 1 25
Hawaiian Rice, 100 lbs.	8 1/2 @ 9
China do.	8 1/2 @ 9
Coal Oil, 100 gal.	62 1/2 @ 85
Candles, 100 lbs.	16 @ 23 1/2
Ranch Butter, 100 lbs.	35 @ 60
Do.	30 @ 30
Cheese, California, 100 lbs.	10 @ 17
Eggs, 10 doz.	50 @ 10
Lard, 100 lbs.	15 @ 18
Ham and Bacon, 100 lbs.	18 @ 20
Shoulders.	12 1/2 @ 15

Retail Prices.

Butter, California fresh 1/2 lb.	45 @ 75
do pickled 1/2 lb.	40 @ 50
do Oregon.	35 @ —
do New York, 1/2 lb.	40 @ 80

Cheese, 10 lb.	15 @ 25
Honey, 2 1/2 lb.	30 @ 40
Eggs, 10 doz.	60 @ 65
Lard, 10 lb.	22 @ 25
Bacon and Bacon, 10 lb.	22 @ 25
Potatoes, 100 gal.	15 @ 1 00
do Sweet 1/2 lb.	1 1/2 @ 2
Tomatoes, 10 lb.	6 @ 6
Onions, 10 lb.	3 @ 5
Apples, No. 1, 10 lb.	8 @ 5
Pears, table 1/2 lb.	8 @ 10
Peaches, dried, 10 lb.	20 @ 22
Oranges, 10 doz.	60 @ 65
Lemons, 10 doz.	75 @ 80
Chickens, apiece.	87 @ 1 12
Soap—Palo & C. O.	8 @ 10
Castile.	14 @ 16

HALL'S SARSAPARILLA,
YELLOW DOCK AND IODIDE OF POTASS.

THE BEST BLOOD PURIFIER KNOWN.

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N. W. cor. Sansome and Commercial sts.

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THROUGH LINE TO NEW YORK,
Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11

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On the 10th, 18th and 30th of each month that has 31 days.

On the 10th, 19th and 30th of each month that has 31 days.

Where the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo, Alloua, Acapulco, Vera Cruz, Yucatan, and St. Nazaire, and English steamer for Southampton, and P. R. R. Co's steamer for Central America.

Departure of the 30th connects with English steamer for the port of the new mines.

The following Steamships will be dispatched on dates as given below:

December 10th—MONTANA, Capt. —

Connecting with HENRY CHANCEY, Capt. Maury.

December 19th—CONSTITUTION, Capt. J. M. Cavalry.

Connecting with the RISING STAR, Capt. Howe.

December 29th—GOLDEN AGE, Capt. W. P. Laplace.

Connecting with OCEAN QUEEN, Capt. Gray.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

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These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

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For Merchandise and Freight apply to Messrs. WELLS, FAROE & CO.

The splendid steamship COLORADO will be dispatched for CHINA & AUSTRALIA, January 1, 1887.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

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COMPANY.

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YONEMITE.....CAPT. W. BROWLEY.

CORNELIA.....CAPT. E. CONKLIN.

One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.

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Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the Silver Mountain *Bulletin* of Nov. 24th: The Mountain Company are driving ahead, and are near the completion of their 1,000 feet in, from the mouth of their lower tunnel. . . . The Lady Elgin Company are blasting away in their mine, and are making splendid headway. From indications in the face of the tunnel, they are very near their ledge. . . . The Pennsylvania Company are running day and night. . . . The Active Company have concluded to commence operations on their claims, by sinking a shaft on the Constitution lode. . . . The I. X. L. Company will soon issue proposals for tunneling in their mine. The sale of delinquent stock on assessment comes off on Monday the 26th; soon after which the managers will be prepared to commence operations.

The balance of the machinery for the George Washington mill is on the way, as it left Shingle Springs some days ago, and may be expected by the last of the coming week. Work in the mine is being prosecuted steadily, the ore improving in character, and the pay vein increasing in thickness, it being now full three feet.

From the Alpine *Miner* of same date: The new shaft in the American mine is now down about ten feet, and the work of grading for the building to cover the boiler, engine, and hoisting works partly completed. . . . Work is commenced on the Mowyer tunnel. W. H. Seaman has the contract for mining fifty feet. . . . Work is soon to be commenced on the James Barrett claim on Red Hill. A contract has been let for fifty feet. . . . The tunnel of the Schenectady Company is now in the Tarsbush ground a distance of nearly 350 feet. Small veins, or leaders, of quartz-bearing ore of good quality are found at every step, indicating the approach to a ledge.

We have received from Professor Kph, of Virginia, an assay bill of a parcel of ore sent him a few days since which shows a value in gold \$1,992.17, silver \$107.84, copper about 15 per cent, or \$60, making a total of \$2,160.01, or over one dollar per pound of ore, above the estimated expense of mining and reducing. This ore was taken from a mine in Alpine county, not many minutes walk from Monitor.

Butte County—

From the Oroville *Record* of December 1st: Ross & Co. are working the old Stag Point claims, that were abandoned several years ago, and have struck rich dirt. They found several slugs this week worth from ten to fifty dollars. Williams & Co., of Laskin, are putting up a large mill on their ledge. The rock is very rich, and no doubt they will make a fortune.

Calaveras County—

From the *Chronicle*: Hecrchner, Myers, Wesson & Co. are making rapid progress in the development of their lead near the Middle Bar. A tunnel seventy-five feet in length has been run directly on the lead, disclosing a vein five feet in width, every pound of which contains gold. From assays which have been made, it is demonstrated to a certainty that the rock, as it is taken from the lead, unassorted, will average twenty-five dollars per ton. It is the intention of the company to erect a mill as soon as they complete their tunnel the distance of a hundred feet. The greatest activity prevails throughout the entire district, and not in a single instance have we heard of labor becoming discontinued on any of the claims. Intelligence from the Whisky Slide district continues flattering. New discoveries are constantly being made in that new locality. Wallace, Cockley & Co., owners of the famous "Whisky Slide lead," since striking the large body of enormously rich quartz at a depth of 100 feet, have contracted for the erection of a large mill, and commenced sinking a new shaft. Matthews, Foster & Co., whose claim is in the same district, have sunk a shaft 112 feet, opening one of the best defined, solid veins of gold-bearing quartz, six feet in width, we have ever seen. Two tons of rock taken from this lead and crushed at Harris mill, in Sandy Gulch, yielded \$44. We are informed that the ledge increases in width and richness as the work progresses. Williams & Co., in the same district, have recently commenced work on a lode which promises to equal the other in richness. Although their shaft has been sunk but twenty feet, they are taking out some remarkably fine rock. They are busily engaged in prospecting, and bid fair to develop a valuable mine.

We continue to hear the most cheering news from Railroad Flat. Hepburn & Co's mill will soon be completed, and we understand that rock sufficient to keep it crushing for six months has already been hauled. The completion of the mill will afford the miners of that locality ample facilities for testing, and working their claims, and, in our opinion, demonstrate the

fact that Railroad Flat is one of the richest mining districts in the county. From West Point, Sandy Gulch, Mosquito and Rich Gulch, the reports are most favorable, and the glittering dust is being taken out in great quantities. Machinery is being erected, abandoned claims re-opened, and new claims discovered.

El Dorado County—

From the Placerville *Democrat* of Dec. 1st: Rich and extensive diggings were discovered some days ago on Poverty Point, above the New York mill, near this city. The vein seems to be a mixture of decomposed quartz, sandstone and soapstone. It runs north and south, and varies in thickness from one to twelve feet. The gold is entirely in the sulphurets. It was discovered in the claim of Mr. Henson. Chunks of solid gold are found in the lode. Very rich specimens have been taken from it. If carefully worked it will average forty dollars a ton, and millions of tons are in sight. It can be got out without much trouble and expense, and crushes easily. Capitalists from Nevada, Governor Blasdel, Senator Hains and others, have examined it, purchased claims and are working them.

A correspondent of the same paper, writing from Georgetown, November 28th, says: Our quartz interests are in no way lagging. The Collins Company are prosecuting the work on their tunnel, which is now in about two hundred and seventy feet. The rock is full of gold-bearing sulphurets, in many of which free gold can be seen by the eye. The Alpine, first northern extension of the above, are also vigorously prosecuting the work on their tunnel, which is now in about one hundred and eighty feet. They expect to reach the ledge in about ten or fifteen feet. They have been at work nearly six months, and have expended about \$800. The ledge is located about four miles from town, in a southerly direction. The Woodside ledge still maintains its richness, but is being worked in such a manner as not to make such an excitement.

From the Placerville *Courier*: A bed of cement extends from Smith's Flat to Coon Hollow, a distance of about six miles, and pays about \$10 a day to the hand, with proper machinery to crush the cement. Stewart & Hall are erecting a mill on their claim at Weaver Hill, about two miles south of this city, and will have it in running order in about two weeks. They are running a tunnel on the Scott claim, adjoining on the west, and expect to strike the cement in a few days. The Folsom claim was sold last week to Mr. Webster, of Nevada City, for \$3,500. This is quite an extensive claim, and a mill is being erected upon it.

Kern County—

From the Havilah *Courier* of Nov. 24th: From a private letter we learn that the mines in Greenhorn District are, as usual, turning out well. The Alpine Company, in their last run, paid about \$35 per ton. Mr. Lewis has cleaned up about \$40 per ton. The Little Bros. are doing well with their rich claim. The Mammoth Company have struck it very rich at 200 feet—"richer than anything I have seen in the country," says our informant. It is the west strata of the Mammoth, and is about two feet and a half wide.

Mariposa County—

From the *Gazette* of Dec. 1st: Messrs. Dyer & Co., of San Francisco, have purchased the claim of the defunct "Hornitos Gold and Silver Quartz Mining Company," and are now pushing on active operations. About 100 tons of rock from one vein are now being crushed; if this does not turn out well another vein will be tested. Things are looking more hopeful around Hornitos than they have for some time. Bancroft & Thurman took out 44 ounces last week. Nelson & Son drew \$1,200 from one hauler, and \$700 from another. Moore & Carlow cleared 200 ounces in three weeks. The latter claim is near the Hornitos Company's mill.

The Colterville correspondent of the same paper says: Business of all kinds has received a considerable impetus recently—principally owing to the rich and extensive discoveries made of gold-bearing quartz in the neighborhood. The Colterville Company's ledge, (known as the Lonisa vein,) immediately below town, is being prospected by Chamberlin & Douglas. They have leased the mill known as the "French Mill," and will have erected all necessary machinery for amalgamating purposes in the course of about ten days. At the Pino Blanco, two miles from town, Dr. McLean has discovered some exceedingly rich rock on his ledge, and is making preparations for testing it. Mr. Flannigan and Mr. Robert McKee have been among the lucky ones at Bear Creek. One prospect alone, of four pounds of rock, yielded about nine ounces of gold. The Messrs. Heslep, at the "Lonisiana," are crushing about ten tons of ore daily, employing from fifteen to twenty hands, with good results.

Nevada County—

From the *Gazette* of Nov. 29th: The mill of the Oro Fino Company, situated on Rush

creek, has lately been rebuilt and placed in complete order for effective work, and will be started up again next Monday. The mill has six stamps, and it is the calculation to keep it running constantly hereafter. Since last spring, the ledges owned by the company are the Oro Fino, the John Bull and the Middle, and besides these they have leased the Yellow Diamond ledge, situated in the vicinity. The John Bull ledge has been opened by a tunnel 425 feet in length, from which they are now taking rock, the ledge being two and a half feet in width.

From same of Dec. 1st: On Saturday last, the Gougeye Cement Company, at Hunt's Hill, cleaned up \$1,350, after a run of four and a half days.

From same of Dec. 4th: The Inkerman mine was located in 1864, and has been worked almost continuously ever since. The main shaft is now down about sixty feet, and a tunnel has been run opening the ledge to a depth of four hundred feet. At this depth, the ledge is about twelve inches in width, and the mine promising.

Same of 5th: The amount of quartz taken from the Henston Hill mine, will probably reach 125 tons a month, and the average yield of the rock is about \$100 a ton. The cost of mining and reducing the ore is \$40 to \$45 a ton. The company have within the past year, erected new hoisting works at a cost of \$30,000, and divided \$60,000 among the stockholders.

From the Grass Valley *Union* of Nov. 27th: We have been informed that after a two week's run of the Gold Hill mill, upon rock taken from the Consolidated Wisconsin and Illinois mine, six hundred ounces of amalgam were cleaned up from the batteries. The crushing is not yet quite completed, and it is thought that when the work is through, the company will realize at least \$15,000 in gold as the result of the twelve days' run.

It is said that a very rich vein has been struck in the Norambagna mine, and that rock is now being taken out which will yield \$100 per ton.

As proof of the richness of the Union Hill mine, we will state that we yesterday saw a bar of gold weighing three hundred ounces and valued at nearly \$6,000, the result of five days' run of the mill.

We yesterday feasted our eyes upon an immense bar of very handsome gold, from the North Star mine. We didn't succeed in getting at the exact value of the lump, but we know that it took all the weights in Findley & Co.'s bank, and an extra one, too, to balance the scale containing the gold. And this chunk was the result of only one week's run of the North Star mill, and with but five stamps running at that.

From the *Transcript* of Nov. 28th: The Banner Mining Company are about having four additional pans set up in their mill. The mill will then have eleven. From the mine the company continues to take excellent rock, and the ledge is now from five to seven feet thick. . . . The owners of the Oro Fino mine expected to start their mill up yesterday. They have a large amount of rock out for crushing. . . . The Eagle Company's mill at Grizzly Cañon, was ready for work on Monday, but the ditch conveying water to the mill was not of sufficient capacity and had to be enlarged. The improvement is completed now, and the mill will be kept constantly at work. A large amount of rock is on the surface, and is of superior grade.

The Ancient River Channel Blua Gravel Company have commenced sinking a shaft at Bear Valley, and are now down thirty-five feet and have come to hard gravel. They expect before reaching the bedrock to go to a depth of about one hundred and eighty feet. Buildings and machinery are up, and the work of sinking the shaft is being rapidly increased.

Same paper of Dec. 1st, says: The late storm has filled the reservoirs and ditches of the miner, and gives an ample supply of water for mining purposes throughout the county. The preparations for mining this season are more extensive than ever before, and larger tracts of country will be worked before the end of the season.

EXCELSIOR.—From the Meadow Lake *Sun* of Nov. 24th: The Enterprise machinery proved an entire failure, and has been taken down. The California mill is in excellent working order, and only awaits ore from the Knickerbocker ledge to resume operations. The Winston mill, about the first of the month, passed from the hands of the Mohawk and Montreal Company to its present lessees, and was started on Wednesday last with an additional battery. The Excelsior mill has closed, and will remain inactive until it can receive some alteration. The U. S. Grant mill is now running and doing good work. The new mill of the Mohawk and Montreal Company will commence about the first of next month. The Reduction Company will soon make a strike with ten good stamps. The Golden Eagle Company design starting a mill shortly. The frame work is finished, and the machinery will soon be set up and in operation.

Placer County—

From the Auburn *Stars and Stripes* of Nov. 28th: The Charles Mallet Co. recently crushed a quantity of rock taken from the fifty-foot level of their mine at Ophir, which yielded at the rate of \$10.50 in free gold and upwards of \$30 per ton in sulphurets. Capt. Mallet informs us that he is now taking rock from the 104-foot level, where the ledge is six feet from wall to wall, which looks better than any heretofore taken from the mine.

On the Wells lead, the incline shaft is now down twenty-nine feet. The vein is three feet wide, and some specimens of the rock left at this office show free gold.

Since our last issue, Mr. Wm. Holdredge, agent of the New York and California Mining Co., has a conditional purchase of the two leads known as the Conrad and Jackson, located about one mile from town. He will at once proceed to run a tunnel 700 feet in length, to strike the ledge very low down.

From a private letter we learn that the St. Lawrence claim, in Ophir district, opens up remarkably well. A six-stamp mill is to be erected at once. The indefatigable Roberts, who is superintendent, says he will have it running by New Year's morning.

From the Dutch Flat *Enquirer* of Dec. 1st: We learn that several companies that had taken the due advantage of the "dry season" have commenced washing in the neighborhood of Gold Run, procuring the required amount of water from the ditches of the Dutch Flat Water Company, which have been partially filled by the late rains.

Plumas County—

From the *National* of Nov. 24th: About three weeks ago Mr. McCarger struck a fine quartz vein on the hill about one and a half miles south east of town, which he has named the New Discovery. He has had the claim surveyed, and has prospected some of the rock, which seems to be very rich. . . . Ellis & Wilbur, of Mill Creek, have nearly completed a large water power derick for the purpose of working claims. . . . Mr. Eleazar Light has a company of hands at work erecting a quartz mill upon the old Ward ledge in Genesee, and has himself gone below for machinery.

In Plumas City, the Plumas quartz mill, with twenty-four stamps, it is expected, will be in full blast within six weeks. A number of new claims have been located within the past month, from some of which very rich rock has been obtained. . . . In Greenville, quartz stock is looking up of late, having taken a fresh start from recent rich discoveries. Many new buildings are being erected, and active preparations are making for business as soon as spring opens.

From the Quincy *Union* of Nov. 24th: The quartz mill of Tombs & Co., in Washington township, was destroyed by fire on the 2d of Nov. . . . In the beds and banks of Grizzly Creek all the companies except one have suspended operations for the season on account of the scarcity of water. The season, as a general thing, has been a profitable one. The Forest Hill Mining Company, (Bickford Bros. & Co.) on the gravel range between Grizzly Creek and Ward Creek, finished laying their pipe in the middle of September, and since then have been engaged in running through the rim rock. Their prospects are good.

Sacramento County—

From the Folsom *Telegraph* of December 1st: Palmer & Day's quartz mill, at White Rock, continues steadily at work, and is crushing large quantities of rock, which we are informed is paying well.

The cement workers on Maine Flat are doing well. On the Folsom side of the river a shaft has been sunk over twenty-five feet in depth; on the brow of the bluff, twenty feet being through what has hitherto before been considered the bedrock. A stratum of cement was then struck about two feet in thickness, which shows good prospects. This cement rests upon the granite. It is believed that the cement under this town lies at a depth of from eighty to one hundred feet, and possibly deeper. The new discoveries cannot, on this side of the river, be thoroughly prospected until next spring, on account of water.

Shasta County—

From the *Courier* of December 1st: The Tornado company cleaned up last Saturday, after a short run, the sum of \$400. Encouraged by the favorable prospects obtained in the claims of this company, others are engaged in opening claims adjoining, and are finding good indications of pay. . . . On Whisky Creek, more mining will be done the present winter than for two seasons past. . . . Every thing is lively at Churntown. . . . At Pittsburg the Worley boys are making good wages in Tom Creek. Anderson Tetric is taking out from five to ten dollars per day from his claim on Bolly Hill, and Burgoon and Williams continue to flourish on the proceeds of the Bamboo lead. Nothing has yet been done towards erecting the proposed smelting works on the Kellinger claim.

At South Forth, nothing has been done on the Chicago at present, but work will probably be resumed in a few weeks. Operations still continue on the Pacific, Ohio and Crystal. The Crystal presents a particularly favorable appearance, and the rock assays almost fabulously rich in gold and silver.

Several assays have been made during the week upon rock taken from the Red Warrior claim, located in the South Fork district, and the lowest result obtained was \$270 in gold and silver, gold predominating. We committed an error last week in reporting the amount cleaned up by the Honeycomb mill. We should have said 234 ounces, or \$3,850.

Sierra County—

From the *Messenger* of December 1st: At Gibsonville the Washington Co. have run their main tunnel ahead, and struck a new load of fine looking gravel, with fair prospects. The Nevada claims at the same place are still panning out their measures. As proof of this, I will only mention the fact that Charles Canny & Bro., who are old miners at Whisky, paid the nice little sum of twelve thousand dollars for two and a half shares in the Nevada a few days ago.

At Port Wino, the gravel and cement digging of Cole & Stephens, and other companies at Brandy City, are about being sold to a New York company if the terms can be agreed upon. Cement mills will be erected. Claims about Dutchman Ranch, Poverty Hill, etc., continue to be taken up, and there is a prospect of vigorous action in that section in the spring.

The Monte Cristo claims are paying better than usual, with prospects of water to wash their dump. The Eagle boys are getting into better prospects, and the Irish company are ready in their hydraulic claims and intend to pipe off the ground up to the road above town. The Pioneer Tunnel company have struck soft rock again, and are getting along satisfactorily.

Siskiyou County—

From the *Yreka Union* of Nov. 24th: After a two week's run, Messrs. Lash & Hawkins cleaned up last Saturday thirteen pounds of gold.

At Indian Creek, S. S. Richardson, the Superintendent of the London Quartz Mining Company, is engaged in putting up three hydraulics, one on New York Gulch and two on White's Gulch.

Yuba County—

The *Appeal* of Dec. 1st says: The Jefferson Company, at Brown's Valley, on the 25th of Nov., struck another "chimney" which turns out the richest rock we ever saw from Brown's Valley. This vein was struck at a depth of five hundred feet. The richness of this rock will soon make good all deficiencies caused by the late cave.

Washoe—

NEVADA.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

From the *Virginia Union*: The heavy new pump engine of the Gould & Curry mine, at the Bonner shaft, has started into full operation, and reduced the water in the mine down to the 625-foot level. It is still 100 feet deep down to the lower or 725-foot level, and when the water is all pumped out, sinking the shaft will be resumed once more, after the lapse of nearly a year. On Saturday last a large stream of water was struck in the Imperial and Empire shaft, at Gold Hill. Workmen, since that time, have been engaged in bailing it out, and have prevented it from gaining on them. To-day the water does not flow in as rapidly as it did at first, and the work of sinking deeper will soon be resumed. The Yellow Jacket is putting in a new pump. The Crown Point Company is taking out an excellent quality of ore from the 400-foot level of that mine. A strike for old wages, viz: \$4 per day, is rumored. It is stated that the Imperial mines has acceded to the demands of the miners, and will continue to pay \$4 per day.

The editor had visited the Sierra Nevada mine, upon which a new shaft was commenced some months ago. After describing the several drifts, he thus proceeds: Ascending to the surface, we view a huge ledge, 200 feet wide and stripped 600 feet in length, which has every characteristic of the croppings of Gold Hill proper, and is known to miners as brown quartz, containing gold. A quantity of this ore has been milled, and rendered, on an average, \$16 per ton. In January, this ore will be mined for reduction, and the quantity is beyond computation. The company will soon erect in the ravine, below the shaft about 100 feet, a fifteen-stamp mill, for the reduction of this brown ore. It will be built like the Nevada county gold mills, without pans, and will crush fifty tons of ore per day, at a cost for mining and reduction of seven dollars per ton, leaving a marginal profit of nine dollars for each ton of ore.

From the *Enterprise* of Nov. 28th: Another big boiler has arrived for the use of the

Imperial and Empire Companies at their new shaft, making the fourth, and together with this steam enough can be generated to drive machinery of sufficient power to hoist ore from the depth of 1,500 feet. We are informed that the new hoisting works of the Kentucky Company at Gold Hill will start into operation to-day. The machinery is all new and very powerful, having two large boilers and a 50-horse power engine.

Reese River—

From the *Reveille* of Nov. 22d: We learn that the Knickerbocker mill, at Lone, has been put in good working condition, and is now hammering away on Great Eastern ore. Its furnaces, as originally constructed, proved to be defective, and they were taken down and rebuilt. The Knickerbocker mill has a battery of twenty stamps and six furnaces, and a well arranged and well furnished amalgamating department, and it cannot fail of success. The Great Eastern mine has ore in abundance that yields \$60 per ton.

From same of 26th: Kinsley district is situated in the Antelope range of mountains, near the eastern boundary of the State. It was discovered a year ago, but was kept quiet until recently. We are informed by Mr. John O'Dougherty, that some twenty-one ledges of silver and copper have been more or less opened. The Emmet, Sheridan, and Reilly, have been the most fully developed, and are each from four to five feet thick. The two latter contain copper ore of a high grade, assays of which give 35 to 50 per cent. of copper, and from \$60 to \$137 of silver per ton. The outcroppings of these two ledges are enormous, exhibiting masses of ore estimated at from 500 to 700 tons. It is a very singular feature of the district, that copper and silver veins occur in close proximity. The Emmett location is a handsomely defined silver ledge, which has been opened to the depth of twenty feet, at which point it is two feet in thickness.

From same of 27th: During the last week seven tons of ore from the Johnson claim on the Silver Champion ledge in the Silver Bend district, were delivered at the Keystone mill for reduction. The pulp assayed at the rate of \$162 per ton, and was worked within a small percentage of that figure.

Belmont, in the Silver Bend district, is improving rapidly, and begins to wear the appearance of a substantial mining town. Work is being prosecuted on the Highbridges with energy and system, and both the claims of Beul and the Gellier Company present splendid development of mineral. Twenty men will winter in Empire district, and perhaps thirty in Hot Creek.

Same of 28th: Yesterday afternoon Boalt & Stefelsdt received nearly 15,000 ounces of bullion from the Twin River Mining Company.

The country lying to the southeast of Reveille towards Pahraangat, is just now the scene of active prospecting. Parties have also gone to explore the country south of Silver Bend, from which come rumors of important discoveries of mineral. We learn, too, that a strong party of prospectors has traveled to the northeast, whose comparatively untrodden hills are believed to be rich in ores of gold, silver and copper.

Esmeralda—

From the *Miner* of November 24th: Kearsarge is beginning to tell its silver story. The last stage brought up 400 pounds of bullion, and we are informed that as much more is waiting for shipment.

The new mines on Walker River are attracting considerable attention, and quite a little village is being erected at the mines, which has been christened Wilsonville. We have also been informed that two mills will be erected at the mines—the Bodio mill from this place, and a mill from Gold Hill. The mines, so far as prospected, are proving all that their lucky owners could desire.

The rumor that the Salt Basin and Silver Peak Mining company intended suspending operations for the winter is a mistake.

The same paper has an article on the Crockett mine, in which it says: "There is a screw loose somewhere. We are of the opinion that there can be sufficient ore taken out within sixty or seventy feet of the surface to pay all the actual expenses of sinking on the mine if it were properly managed. But we will say to this company as well as others, that men should be employed as superintendents who have the reputation of being good miners, men of good judgment, and a small portion of that very necessary ingredient—honesty."

Black Rock—

The *Eastern Slope* of November 24th, says: Recent letters inform us that the tunnel on the Snow Storm has developed richer rock than was ever heretofore found on that famous ledge; that new and rich ledges are being discovered and located, and that the mill in course of erection will be ready to commence operations on or before the first of January.

IDAHO.

From the *Owyhee Avalanche* of Nov. 17th: The Cosmos mill is receiving eight or ten large

wagon loads of new machinery direct from San Francisco by the Humboldt route—such as new batteries, extra stamps, concentrators, shovels, dies, etc. Capt. Musgrave expects to be able to run the Cosmos the entire winter. They have out over six hundred tons of Silver Cord rock ahead of the mill.

The owners of the Donovan and Thomas ledge are at work sinking a shaft on the vein, and are already down forty feet. The vein in the bottom of the shaft is four feet wide and shows good casings. Several tons of ore are piled up near the top of the shaft, which appears to be rich with the metal.

A company of twelve Chinamen made \$1,500 in one week, at Silver City.

The *Idaho Times* of Nov. 13th, says: On Sunday last we made a flying visit to Pine Grove and the claims in the immediate vicinity. We found the miners considerably frightened by the sudden appearance of snow. They are still sanguine of being able to work until the first of next month. Several companies are working a full complement of laborers day and night. The village of Pine Grove presents quite a lively appearance.

Mr. J. H. Reed reports that the principal creek of the newly discovered mines on the North Fork of Salmon river will pay from \$5 to \$7 per day to the land, for a distance of twenty miles, and that two of its tributaries are equally rich. The gold is of good quality, assaying over \$17 per ounce.

From the *Wallis Statesman* of Nov. 16th: The Kootenai expressman brings a report that gold in paying quantities has been discovered at the Kallispelin Mission. A number of claims had been taken up, and it was thought that a permanent mining camp would be established. The new diggings are about 200 miles this side of Kootenai, and immediately join the Mission, from which the district takes its name.

The *Portland Herald* learns from a private letter, that astonishingly rich prospects had been discovered about thirty-five miles above the mouth of the Kootenai river. This story may have the same basis with the one mentioned above. If this be so, it is probably in Western Montana.

MONTANA.

From the *Post* of Nov. 17th: The St. Louis and Montana Mining Company have within the period of two months constructed a building 150 feet in length, which contains the engine, a blacksmith's shop, Scotch hearth, cupelling furnace and capola furnace. By the use of these means more than ten tons of ore can be run into lead every day, and eight tons of lead can be cupelled at one time. In addition to the two hundred tons of ore which will be furnished by the Legal Tender lode, about three hundred tons of ore, considered to be equal in richness to the former, has been taken from the Stapleton and Henry Clay leads. Wood, water and charcoal are abundant, and tons of silver will be produced during the winter.

Need Gulch, eleven miles south of Virginia City, is thirteen miles in length. The gravel yields from five to fifteen cents per pan, and the depth to the bedrock is only eight feet, but the distance is greater in the canon district. A drain ditch is being constructed. In Cave Gulch, three miles from New York, the diggings are deep and the dirt very rich, paying \$2.50 to the pan on the bedrock. Parties of three and four men are taking out from \$200 to \$300 per day.

Letter from Bannack, dated Nov. 9th, has these items: Montana City was all excitement at the success of Professor Steitz's furnace. He cupelled forty pounds of pure silver from the mine of the St. Louis Company at Rattlesnake. No. 6, Dacotah, to-day stands higher than ever before. The quartz from the deepest shaft gives the best returns. Next season the company will bring better and more machinery. The Salmon mine, on Baker's creek, and other gulches, all promise well, and we venture the assertion that there will be ten thousand people in there next season. The Bannack Ditch and Mining Company has just wound up operations for this year, with highly satisfactory profits, and a bright prospect ahead of larger "returns" next season.

The same paper has an editorial in regard to the mining prospects of the Territory. We quote: Companies have announced intentions to build mills, and we have good grounds for stating that more than twenty will be brought from the States within the next twelve months.

The *Alta* of Dec. 3d, quotes from a private letter received in this city, a few days since from Montana: "I almost curse the day I came here. I would rather pick rags in San Francisco for a subsistence, than remain here in affluence; and this first sunny day, which I suppose will come some time next summer, and when the snows are down to a traveling depth, I will take the coach for the 'other side,' and forever shake all countries that are not on the Pacific coast. Many Californians here, and all disgusted."

ARIZONA.

From the *La Paz Gazette* of Nov. 8th: The

Mohave reached La Paz on Tuesday afternoon. She brought the mill machinery of the Vulture Company, which will be forwarded to Wickenburg. From William's Fork, we learn that the Springfield Company with which Col. Ripley, Mr. Charles A. Crane, Mr. Hamilton and Mr. Bigler are connected, has been at work developing the Punta del Cobre, on which they are down about fifty feet, and have found a promising vein of high grade ore.

The *Los Angeles News* of Nov. 25th, quotes from a late new daily paper in Prescott: Several quartz mills were in operation at Lynx creek; a number of armstraws and a crusher were doing a good business. The Lyons furnaces are being introduced into Arizona.

COLORADO.

From the *Journal* of Nov. 13th: The Ophir Company shipped 468 ounces of gold last month, and will ship about 500 this. The Keith furnace has been started in the Manhattan mill. The Smith & Parmelee mill is again stamping, having put in a new boiler. The Consolidated Gregory also started its mine pump on Monday, to relieve the companies mining below it on the lode. Last Thursday the Sensitive G. M. Company declared a dividend of one per cent. on their capital stock of \$1,000,000, for the month of October.

The Smith & Parmelee Company have just made the largest retorting ever made in Colorado. The weight was 114 pounds; and value in currency \$3,500. It was the result of the work of a month and a day. The company expect to do better in future.

From the *Denver News* of Nov. 14th: The Colorado Mining and Exploring Company are sinking a shaft on one of their lodes in Sugar Loaf Mining District, Boulder county. They have a crevice showing three feet of quartz, rich in free gold. The company design erecting reducing works early next season.

Letter from Boulder to the *News* announcing the total destruction of the splendid mill of the Niwot Company.

Long's Peak Mining Company, in Ward district, is working the Comet lode, believed to be the eastern extension of the Columbia. The surface ore—a porous quartz, containing free gold—yields under stamps, from six to eight hundred dollars to the cord. At the depth of about thirty feet they have struck sulphurates of iron and copper, which pay four to five hundred dollars per cord, under stamps. The vein at that depth is about four feet wide, one foot of which is copper sulphurates which assay full twenty-five per cent. of that metal.

Same paper gives some statistics for the Territory, from which we extract the following: During the past year eight smelting furnaces have been built in the mining districts at a cost of one hundred and eighty thousand dollars, and fifty-eight miles of mountain road, built at a cost of sixty thousand dollars. The production of gold from the mines is much more than double that of last season.

UTAH.

The Salt Lake *Vedette* of Nov. 24th, has an article on "Iron and Coal in Utah," and the important aid in building the Pacific Railroad, which they will furnish. We quote: We know of no reason why the rails and all the iron work for the road from Denver to Reese River, Nevada, should not be manufactured in the vicinity of this city—we have the iron ore and the coal, and our mountains can supply the needed timbers. Moreover these mines of iron and coal are located in the heart of a rich, fertile and populous agricultural region, capable and ready to supply the necessary provisions for the sustenance of a manufacturing community without the great cost of long transportation.

A SELF-ACTING "STATION INDICATOR" has been invented by a Pennsylvanian. It is placed at the end of a passenger car, in full view of the occupants, who can therefore at any moment read the following: "The next station is Springfield," (or whatever it may be). An endless band upon which the names are inscribed, in the proper order, is enclosed in a box, and each name is in turn brought to view. It is operated by means of a lever, which projects beyond the side of the car within reach of a post beside the track at each station. Should the car be backed, the lever is reversed, so that the reading is always correct. Those who have experienced the difficulty of hearing the announcement of the conductor in the old way, often indistinctly made, and that too at the last moment, will appreciate the improvement.

A BURGLAR-PROOF SAFE LOCK has been invented by a man in Rochester, N. Y., which is claimed to be superior to all others. Its peculiarity consists in a magnet, which retains the catch in such a position that not even the slightest movement can indicate the position of this tumbler, to one who is attempting to pick the lock.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

C. W. M. SMITH,.....W. B. EWER,.....A. T. DEWEY.
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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING and SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 26, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
SAN FRANCISCO, Jan 11th, 1866.

Mr. Thos. J. Hall, is an authorized agent for this Journal for the northern counties of this State. Dec. 1, 1866.

Mr. F. F. Frost, is an authorized agent for the Press for Amador and Calaveras counties. Dec. 1, 1866.

Mr. L. W. Felton, is an authorized agent for this paper at Portland, Oregon. Dec. 1, 1866.

San Francisco:

Saturday Morning, Dec. 8, 1866.

NOTICES TO CORRESPONDENTS.

A. C.—In our observations last week, we omitted making allusion, in our notice of the diamond and topaz, to a circumstance which has gone the rounds of newspaper paragraphing, connected with a peculiar example of physical change in a diamond exhibited by M. Fremy, at the meeting of the *Academie des Sciences* of Paris, on the seventh of May last; we did so for a reason which will be explained hereafter. The diamond alluded to weighed upwards of sixty grains, and is described as being of a slightly yellow tint, but which changes on being submitted to an elevated temperature, to a rose-red color, which it maintains for several days, gradually returning to its normal yellow appearance. Thus, the diamond, although rose-colored at one *seance*, will, if preserved in the cold state in the cabinet of the Institute until the next *seance*, again exhibit its normal yellow color. It is considered that this is the first instance known of a diamond displaying variable colors. Many Brazilian topazes possess a yellow cast, which often permanently disappears and becomes colorless, on being subjected to a high temperature. These are not unfrequently disposed of to the uninitiated as genuine diamonds, and are known by the corrupted title of "over miners" amongst the less educated Hebrews, who are the most apt to be peddling such matters. The term is a corruption of *nova mina*, itself a transposition of *Minas Novas*, a province in Brazil, where these gems are principally found. Many yellow topazes, however, change their color by heat to that of the balos or rose-red ruby, in which case they are usually passed off as the spinelle, and sometimes as the Oriental ruby, from which latter its rose-red color may easily be distinguished. Some sapphires and rubies, especially the spinelle varieties (usually compounds of magnesia and alumina), have their tints changed and colors discharged by means of heat—the change, however, is permanent, not variable. These changes of color are probably due to the greater or less state of oxidation of very small portions of iron and manganese alone or mixed; the latter metal is well known in chameleon mineral to afford a wide scope of colors accordingly as it may be chemically associated. The ordinary price of a diamond of similar weight to the one above noticed is usually 60,000 francs (more than \$10,000); if the rose-red color was permanent, the value would be tripled. The paragraph alluded to, omitted the italicized word, and caused us to wait further information. This example only affords another to the numberless instances of erroneous ideas being spread by the continued iteration of an original error of omission or misconception.

C. M. C., PORTLAND, OREGON.—Water-tight, underground apartments can only be made by the construction of well cemented walls; and in many cases, where the pressure is considerable, or the foundation porous, by covering the center area composing the floor with solid concrete of about a foot in thickness, for which purpose hydraulic cement will have to be used. We anticipate these methods will be found too expensive in your city, as compared with the benefit to be derived. We have no definite knowledge with regard to the water-tight cellars in the European cities named, but presume they are constructed in the above manner. No difficulty will be encountered from the pressure where it does not exceed ten feet. In cases where the foundation is not too porous, the thickness of the concrete may be lessened three or four inches, by making a sub-flooring of rammed puddled clay, of from eight to twelve inches in thickness. Clay itself, well rammed, will occasionally keep out water; but to be safe, and obtain a quite dry cellar, a concrete coating may be found requisite.

C. E. S., COLORADO.—The chlorination process (Plattner's) is now in successful operation in both Grass Valley and Nevada City, Nevada county, California, also in two or three other localities in the State. The works to which you refer in this city have been discontinued. We published a brief description of this process in our issue of July 27, 1863, which we forward you by mail.

CEMENT MILLS.

It is well known to all who are conversant with the mode of working the hard cemented gravel, from what are known as "cement diggings," that with few exceptions all the gold obtained is from a very small portion of the material crushed. The gravel proper taken from these mines is merely the fine material that has been packed into the interstices between the boulders which comprise the chief portion of the mass with which the old river beds have been filled up. The largest and hardest of these boulders can generally be taken out very free from the cement, and are thrown into the waste heaps; but there is a large portion of the smaller boulders, from the size of birds' eggs up to those of five or six inches in diameter, which are comparatively rough, and owing to that peculiarity it is found very difficult to remove the auriferous gravel from their surfaces; hence, they are broken up like quartz and thrown into the battery. This process involves the crushing of a large mass of what is known to be worthless material, which comprises by far the largest portion of that which is put through the battery. This necessity involves a large amount of cost and greatly increased difficulty in saving the gold, by reason of the necessity for rescuing it from such a large mass of refuse.

Various devices have been resorted to, to remove the cement from these numerous smaller boulders, so as to avoid the necessity of crushing them. Among others, an arrangement similar to the Freiberg barrel has been introduced, into which the boulders with the cement are placed, and by the attrition arising from the revolution of the barrels, which may be assisted by hot steam, the adhering cement and gold is worn off, the cement dissolved and reduced to fine gravel, by which the gold is liberated so as to be readily amalgamated with the quicksilver. We see no reason why this process should not work well.

Some time since, a gentleman of our acquaintance suggested a conical-shaped machine, into the lower and smaller extremity of which he proposed to introduce a powerful stream of water, similar to that thrown from a hydraulic hose. Within this and from the upper surface he suspended a emeller cone, with its apex also downward. Into this machine, through a proper opening, the boulders and cement were to be thrown. The action of the water would keep the mass in violent agitation, projecting the boulders against the overhanging cone and against the sides of the main machine, by which action, and from attrition against one another, the boulders would be freed from the cement, and the cement itself reduced to pulp, and ejected through proper screens arranged around the sides of the machine near its center, while the boulders made their escape, automatically, in another direction. We believe this idea was never put into practice, although a machine was nearly completed at the Union Iron Works for the party above alluded to.

The question involved, however, is a very important one; and any person who will devise some cheap, efficient, and rapid mode of accomplishing the end desired, will confer a most important benefit upon this great and growing branch of mining industry. We should be pleased to hear suggestions from our correspondents with reference to this matter.

SHERMAN'S MARCH THROUGH GEORGIA has been immortalized by Mr. Thomas Nast, a young artist of New York. The selection of the subject has been most happy, and the particular incidents and grouping depicted, are eminently historical and suggestive. This picture has been purchased by Messrs. Snow & Roos, and was exhibited by them to a private circle of invited friends on Thursday evening. The artist has executed his work in a manner and style with which but little fault can be found, by even the most exacting critic. Messrs. Snow & Roos are entitled to much credit for the energy and enterprise displayed in securing this valuable work of art for the Pacific coast. We understand that it will be placed on public exhibition at their picture room, 219 Montgomery street, when it will doubtless be made a careful study by the public of San Francisco.

NOTES OF TRAVEL.

NUMBER THREE.

A ride through Santa Clara Valley is one eminently suggestive—not indeed of grandeur and sublimity; for as the lofty mountain, the deep cañon and the rushing torrent are wanting, there is nothing there to produce the wonderment inseparable from the idea of grandeur; or the sense of fear, which is equally inseparable from the impression of sublimity. In harvest time, the eye wanders eagerly over yellow fields, rich with golden grain, and beautiful vineyards and orchards loaded with luscious fruit, interspersed here and there with elegant manions, but more frequently with the quiet and unostentatious abodes of thrifty husbandmen. It is true the beauty of the scenery is essentially marred by many rude structures, but illy calculated for the promotion of either refinement or comfort; but even these are eminently suggestive of the wonderful change which has of late years come over the minds of the people of this State, since the time when only the most far-sighted thought the Pacific coast could ever become the home of a thrifty and refined population.

THE MAGNITUDE OF OUR AGRICULTURAL RESOURCES.

Experience has proven that not even the Valley of the Nile, or the vine-clad hills of France, can successfully compete in variety and productiveness with this most beautiful garden spot of earth. While other parts of the State may stand still or retrograde by a process of exhaustion and gradual yielding up of their mineral treasures, this beautiful valley must go on, year after year, increasing in wealth and loveliness; for its prosperity is based upon that true foundation of national wealth, which neither storm nor flood can shake, and which no amount of judicious extraction can ever exhaust of its precious treasure of yellow, golden grain, more valuable and more enduring than even the glittering dust of its mountain river, because of its capacity of eternal, perennial renewal.

California, limited as she is in the development of her agricultural resources, is to-day furnishing bread to the hungry in almost every part of the world. In addition to the steady stream of metallic wealth that is constantly flowing out through the Golden Gate, to replenish the coffers of the wealthy, and sustain the financial credit of Europe and America, the ships of California, loaded with the golden products of her fertile valleys, are now wending their way, by different tracks, to every quarter of the globe, bearing food to the hungry mouths of the Atlantic States, of Europe, of Asia, of Australia, of Japan and many smaller islands of the Pacific ocean. Many thousands of tons of this year's crop have already gone forward, and more than 200,000 additional have been accumulated in stores and warehouses almost innumerable, until there are scarcely ships enough in the broad Pacific to bear them away. This is but the beginning of our agricultural prosperity. Who can count the immensity of wealth which must pour in upon us, when capitalists shall have built the railroads necessary to reach and remove the annual products of the millions of our fertile acres which yet lie idle for the want of those necessary helps to their development?

SHORT-SIGHTED POLICY—BURNING UP TREASURE.

It seems as though some of our agriculturists have become intoxicated with the prospects of present and future wealth, and are actually studying to relieve their lands from their present apprear over productiveness. At least, such were the impressions forced upon our mind as we passed to and fro, in various directions through this beautiful valley, and beheld the numerous fires, with their dense columns of smoke, as they rose up in every direction from the broad fields which surrounded us. Of course this is not peculiar to Santa Clara Valley. It is the almost universal practice for our ranchmen to burn the straw and all dry refuse on their ranches, as a means of ridding themselves of such incumbrance, preparatory to the next season's plowing. This is usually done immediately after the first rain, when the ground and stubble is sufficiently moist to remove any special danger from the spreading of fire. In the evening, great numbers of these

fires can be seen; sometimes in fact the whole horizon seems aglow. Such scenes may be witnessed, in their season, from this city, by any one who will take the trouble to look across the bay into the neighboring county of Contra Costa. They resemble the annual burnings of the tule on the Sacramento river. Hundreds of thousands of dollars, in what is as good as so much treasure, is thus destroyed every year by the short-sightedness of our California farmers. This is all wrong. There is not a ton of straw grown upon any grain-land in this State, that ought not and might not go back again to the soil. If it is burned up, it is simply destroying the future resources of the land, which every well-meaning person should leave, as far as possible, intact for those who may come after him.

As our California valleys have no river Nile, with its fertilizing waters, to annually restore that which may be taken from it in the shape of fruits and grain, it is enough that we take from the land the bare grain; it is a moral crime to uselessly deprive it of the fertilizing qualities which go to make up the more bulky stalk or straw. In doing that we are robbing posterity without scarcely any present gain for ourselves.

A important lesson may be learned in this direction, from our Eastern grain regions. A few years ago the Genesee Valley, in New York, was the finest grain country, then improved, on the continent. It was managed, at first, very much as land is now managed in California. Its period of successful culture lasted but a single generation; and it is now considered as barely of third rate importance as a grain producing district. The land is worn out. Its wealth of phosphates, of potash, of soda, of lime, etc., is scattered to the four winds of heaven, just where the unthinking farmers of California are sending those same indispensable fertilizing elements from their own broad fields. The most sagacious of our farmers have never practiced it here; many have already abandoned it; let those who hereafter practice it be marked as either incompetent or unworthy the gifts which a bounteous nature has placed within their keeping. If any continue the practice, be their crops ever so abundant now, they or their children, at farthest, will see their lands worn out, and perhaps their children begging bread.

NO EXCUSE ALLOWABLE.

In vain comes up the plea of the want of time or the great cost of labor in California. In vain do they plead the impracticability of such a thing in California. In this dry climate, the plow may indeed turn up the stubble of former years still undecomposed. The more, then, is the necessity for assisting nature in her efforts to restore the fertilizing elements which she is annually yielding up, transformed by the blessed sunlight of heaven and the vivifying rains of our glorious climate into the richest food for the sustenance of man or beast. Her fullest efforts are spent in giving life even to the almost exhaustion of her recuperative powers; let, then, the recipients of her blessings show the trifling acknowledgement of a reasonable effort to aid her in renewing her strength for her annually recurring, life-giving labors. Pile your straw into heaps, tread it down and let it remain on the ground until it does decay, or, what would be better, haul it to your cattle yards, if you have them, where it may be eaten and tramped into the ground, by which it will be readily converted into the best of manure; or what would be still better, cut it up and feed it to your cattle. The worst possible thing you can do with it is to burn it. Those who don't believe our suggestions will pay, will think differently in a few years; when it will be too late to save that which is lost.

If, after all, it is decided that the straw must be burned, let the ashes be immediately thereafter moistened with water and perhaps mixed with a little loam, and spread at once evenly over the land. A gentleman well acquainted with all the best modes of agriculture in Europe, informs us that the only instance in which he is aware that it has been claimed, by experienced farmers, that burning straw is a beneficial mode of getting rid of the incumbrance, and a proper mode of converting it into manure, as in the fens of Lincolnshire, England. These fens are composed almost entirely of turf, with very little earthy matter, and are particularly deficient in silica, a mineral so necessary to the support of the ripened stem. Rotting in the straw-yard does not set free the silica from the straw; and it has frequently occurred that repeated cuttings, without burning the stubble, have so removed the silica from the soil of those reclaimed fens, that the most luxuriant crops of grain have fallen to the ground, as the ripening season approached, merely from the lack of silica to support them. The remedy has been to leave as much stubble as possible, and turn over the field immediately after harvesting. Similar results have been noticed on newly reclaimed bog-land. This reason does not, however, hold good in the grain-lands of California, where silica is usually found to an inconvenient excess.

(To be continued.)

THE ARIZONA MINES.

Mr. C. A. Luke, of the Specie Basis Mining Company, Arizona, has paid us a friendly visit, and furnished some valuable information about the mining resources of Arizona, which he thinks will at no distant day prove fully equal to the most sanguine expectations which have obtained with regard to their value. Much prejudice has heretofore existed about the reputed richness of the mines of Arizona, which, perhaps, nothing but actual results can remove. These results are now fast coming to hand and will soon speak for themselves as facts. It must be borne in mind that the miners in that Territory have toiled and labored under the greatest disadvantages imaginable; and nothing but the proverbial spirit for energy and perseverance, so general among miners everywhere, could have overcome the obstacles antagonistic to success in that distant region. Mills have now been erected in different places throughout the Territory, and the joyful sound of their stamps and the puffing of engines is heard in all parts of the country, to cheer on the weary miner, and offer him consolation through the precious and glittering ore, which they are extracting from innumerable ledges. There have been more developments made among mines in the vicinity of Prescott, the capital of the Territory, than in other parts of the country; but it should be borne in mind that the mines on the Colorado River are not totally neglected; for by every vessel from the mouth of that river we now receive at this port large shipments of copper ore, taken from the mines of Williams' Fork, and other places. Higher up on the river, near Hordyville, several companies are at work in the San Francisco district.

Mr. C. Strong, late Superintendent of the Gould & Curry mine, has erected a 10-stamp mill on the famous Moss lode, which is all complete and now running night and day, with the most flattering results. The poorest rock, which has all along been considered worthless, yields, at the mill, as we learn from private advices, about \$25 per ton. We also learn that the company has just struck, in their tunnel, a 5-foot vein of what appears to be exceedingly rich ore.

There are also organized several companies in the New York and Philadelphia, and in the Sacramento districts, some thirty miles higher up the river, prominent among which is the Specie Basis Mining Company, a wealthy organization of Philadelphia capitalists. The mines in the latter district are supposed to be very rich, the lodes are large and well defined, showing their outlines for miles, and much confidence is felt that it will prove to be the richest district on the borders of the Colorado River. A large portion of the ledge yield argentiferous galena; but there are also in this district some very rich copper veins, prominent among which are the Antietam and Seabeck lodes, belonging to the Specie Basis Mining Company. In climate, this district is not to be excelled. Water and fuel is plenty, and the best kind of feed for animals abounds. The plain or valley near the mines is also valuable for agricultural purposes. The soil is adapted to raising anything needed for the supply of the wants of a large population. Mr. Luke assures us that the Specie Basis company will commence active and full operations next spring, and as the company possesses abundance of capital, they will develop a number of ledges in that district. It will be gratifying for the mining community at large to hear of the progress made in mining operations in this region; and if the Government gives proper protection, through the military, to the industry and capital invested there, Arizona will soon take sides with California and Nevada, the two great gold and silver bearing States in the Union.

The officers of this company are—R. B. Fitts, President; Wm. R. Allen, Secretary.

The arrangements for printing the specifications of United States patents are now complete, and it is expected that the system will soon be in full operation.

MEDICINE CHEST—see advertisement in another column.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, new and important inventions, also, the list of Patent Claims recently issued from the U. S. Patent Office to Inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers in this city of the *MINING AND SCIENTIFIC PRESS*. PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

RUDDER.—Maximilian Wappick, Sacramento, Cal. 1.—I claim providing the rudder blade with slots, forming openings through the entire body of the rudder in such a manner as to allow a partial efflux through said openings and thereby prevent the backing of water, at the same time that the comparative vacuum on the aft side of the rudder blade in steering is being filled with increased rapidity, for the purpose of more evenly balancing the pressure of the water on the forward and aft side of the rudder, so as to reduce the strain on the pintles and facilitate the turning and handling of the rudder in steering a vessel. Second, I claim constructing a rudder of tubes or rounded bars firmly braced and framed, substantially as specified, for the purpose of obtaining, with a small rudder blade, a great effective steering action, and with a reduction of weight of material an increased strength of rudder. Third, I claim, providing the rudder step and shoe, and the pintles and braces, or their equivalents, with concentric grooves and rings, substantially as and for the purpose set forth.

SAFETY VALVE.—William Barnett, San Francisco, California, assignor to J. C. Paige, Stonham, Mass. The inventor claims: First, the arrangement of certain levers and their attachments, substantially as described and for the purpose specified; second, the lever weight so arranged that the lever passes through and works free within the body of the weight; third, the means described for relieving the valve of its load to test its operative conditions; fourth, the arrangement substantially as described for securing the cover of the inclosing case; and fifth, the cap provided to prevent the valve spindle from being wedged, substantially as described.

SOD CUTTER.—Silas A. Moody, assignor to Philip E. Divine, San Francisco, California, claims a series of circular blades or knives upon a shaft or axle arranged to rotate, as described, in combination with a cover, and seat upon the cover, substantially as described.

RECENT INVENTIONS.

A CIGAR HOLDER.—Mr. W. R. Vaader-slice, Jr., 810 Montgomery street, San Francisco, has invented a new cigar holder, which is said to be quite an improvement on those in common use. This holder consists of an amber mouthpiece, to which is attached two silver wires about an inch and a half long, the ends of which clasp a silver ring, through which the cigar in smoking is thrust. Extending out from the amber mouthpiece is a hollow silver point which penetrates the cigar, and dispenses with the necessity of cutting off the twisted end of the same. It is claimed for the invention that the silver tube will catch all the moisture from the cigar, and can always be easily cleaned and kept fresh.

AN IMPROVED CANDLESTICK.—By Judge Rix, of San Francisco. This invention consists of a frame similar to the old one, but the candle is held by two semi-circular blades, set a short distance apart, and brought together to a wedge-shaped wire band. This band is so arranged that it can be moved at pleasure, thereby enlarging or decreasing the socket or candle-rest. By this invention the trouble about large or small candles is obviated; there is no need to whittle off a portion when too large, or wrap the end in paper when too small; the blades can be adjusted to any sized candle. Another item is the fact that there is no loss, the candle burning entirely up, and there being no necessity to dig out the socket, for when it burns out it falls to the bottom of the stick, and there is an end of it.

PATENTS can be obtained for citizens on this Coast through the *MINING AND SCIENTIFIC PRESS* Patent Agency, in one half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars given.

DEWEY & CO., Patent Agents, 505 Clay street, San Francisco.

LINCOLN SCHOOL EXHIBITION.—The Lincoln School has given two exhibitions the past week, for the purpose of establishing a fund to purchase medals to be given at the end of each school year to the best pupils. The entertainments consisted of tableaux, vocal and instrumental music, speaking, etc. The whole has passed off to the general satisfaction of the audiences in attendance. During the programme of the first exhibition, a note was read from Thomas Mooney, Esq., as president of the Builders' Insurance Co., contributing \$25 in aid of the "Medal Fund." We have not learned the amount raised; but trust the boys have secured a good round sum in aid of the praiseworthy object.

WOODWARD'S GARDENS.—We have just had the pleasure of another visit to this place of public resort, and no longer wonder that it stands so high in popular favor, after finding the beautiful walks about the grounds so perfectly hard and dry, compared with the muddy streets we had so recently left. Beauty, neatness and order are displayed in all the departments, and what is still more commendable—and somewhat unusual in places of amusement—no temptation to disorder is offered in the form of intoxicating drinks within these gardens; hence it is fast becoming a favorite resort for families.

It will be seen from the advertisement which appears to day, that new attractions are being constantly added. Already the zoological and ornithological departments are represented by the largest and finest collection of birds and animals to be found anywhere on the coast. Among these we may name the ant-eater, the badger, the California lion, the grizzly bear, and not less than a half dozen other varieties; apes and monkeys too numerous to mention, and not to forget the children who are fond of a ride, we must notice the mammoth double-humped back camel and the diminutive Shetland pony—both well trained and ready for their part of the entertainment.

Not the least attractive feature, however, to be seen here, is the Museum of Natural Curiosities, consisting of coins and implements of all nations, savage and civilized; petrifications, shells, minerals, eggs, stuffed birds, reptiles and minerals of every description, with occasionally a *usus nature*, in the form of a double-headed calf, or a pair of Siamese twins, together with a rare collection of paintings, seldom surpassed in point of beauty and finish in any country.

The entire lower story of the main building is now being fitted up, and stored with a new assortment of similar curiosities, and which we understand will be thrown open to the public about the middle of the present month. This will be a sight worth seeing, saying nothing of the other attractions. Strangers coming to the city will scarcely be able to find a more pleasant or profitable mode of spending a half day or more, than by visiting these grounds.

Air Pump for Sale.—One of Tate's Double-Action Air Pumps, in prime order, can be had at a bargain, by applying soon at this office, or to JOHN ROACH, mathematical instrument maker, 522 Montgomery street. 21v13-3p

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. n010

TOWNE & BACON, Print—

Stock Certificates,
Assessment Receipt Books,
Transfer Journals,
Circulars,
Hand Bills,
Cards,
Billheads,

And every kind of Job Work that may be desired.
A NEW ARTICLE OF TAGS FOR ORCERS' USE.
16v12 536 Clay street, opposite Leidesdorff.

OIL! OIL!! OIL!!!

—OUR—
MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

Dell, Cranna & Co.,

511 1-2 and 513 Froot street, San Francisco

IMPORTERS OF

COAL OILS AND LAMP STOCK.

21v12-3m3p



Postage.—The postage on the *MINING AND SCIENTIFIC PRESS* to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked in Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

To Miners and Families Living in the Country.

DR. BOYNTON'S MEDICINE CHEST, is put up in San Francisco expressly for the use of families, and consists of a chest of moderate dimensions, neat in its appearance, containing those household articles, simple remedies, that families always feel like keeping on hand for immediate and common use, and a book of brief instructions, describing their use.

The object in preparing this Chest was not to make doctors, but for the simple purpose of nursing; hence, a majority of the remedies are such as are familiar to nearly all, who are advanced in life, and the book is simply a representation of those plain truths relating to the department of the nurse already set forth in more extensive works. It was the object, not to say many things, but to say few things—to simplify and make plain for common use. And in selecting the contents of the Chest, the object was not to set forth something new and wonderful, but those of old and acknowledged worth.

In view of the above facts, physicians have everywhere encouraged the circulation of this chest in amiable terms. They recognize the fact that families do not, will not, need not call on them on the occasion of every slight derangement or infirmity. They do not and cannot deny the fact that such obligations of home care rest upon heads of families.

The book gives a description of nearly every medicine in the collection, their use, and their component parts, so that every person may know what he is receiving into his stomach or applying to his person. This openness and frankness is regarded by the best practitioners, and all considerate persons as justice, more than policy. The universal conviction of the more thoughtful is, that that which relates to our health and physical well-being in this life should, above all things, be known, and not kept in the darkness of secrecy.

In introducing this chest in the country, we always first submit it to the criticism of practicing physicians, and feeling the importance and seeing the necessity in this sparsely settled country of home-nursing, and seeing the adaptability of this chest, physicians in San Francisco, Sacramento, Stockton, Knight's Landing, Cacheville, Marysville, Colusa, Oroville, Lincoln, Folsom, and Auburn, have given it their hearty sanction. Seeing the necessity on this coast of people relying upon themselves in such matters, physicians in this State have remarked: "If I could choose but one for a family, I would every time choose this nurse instead of the physician." "If families would get a collection of simple remedies, with plain instructions for their use, they would do away with half the doctoring." "All families should possess themselves of a collection of common remedies, with plain instructions for their use." "I would like to see the chest in every family." "It is a convenience." "It is useful." "Much sickness and much expense might be saved by such home care."

We subjoin the following statistics from Sutter County, California:

"Tao undersigned have had Dr. Boynton's Medicine Chest in their families for the last few months, and willingly state that they regard it as a wise provision, strictly practical and highly useful."

Every person having the chest in the above named county has signed the above article. The publishing of the names being unnecessary, we withhold them and save space.

The undersigned have known Dr. Boynton's Medicine Chest for the last few months, and regard it as a wise provision, and highly useful in every family. The medicines being put up with instructions, its utility, convenience, and great economy are unquestionable.

Signed by Judge BURLEIGH and 45 others.

STATE OF CALIFORNIA, ss.
County of Sutter,
I, C. E. WILCOX, County Clerk in and for said County, hereby certify that I am personally acquainted with a majority of the individuals whose names are subscribed to the foregoing certificates, and that they are good and substantial citizens of said county.
Witness my hand and official seal this 27th day of
[L.S.] December, A. D. 1865.
C. E. WILCOX, County Clerk.

Agents wanted in every County to sell this Family Chest. Their compensation will be a liberal commission on all sales.

The Agent should be a resident of the district which he is to canvass, and accompany his application with good references, and of this city if possible.

We can give further particulars when desired.

All letters should be addressed through the post office, to
E. NORRIS,
12v13-cow61p9 San Francisco.

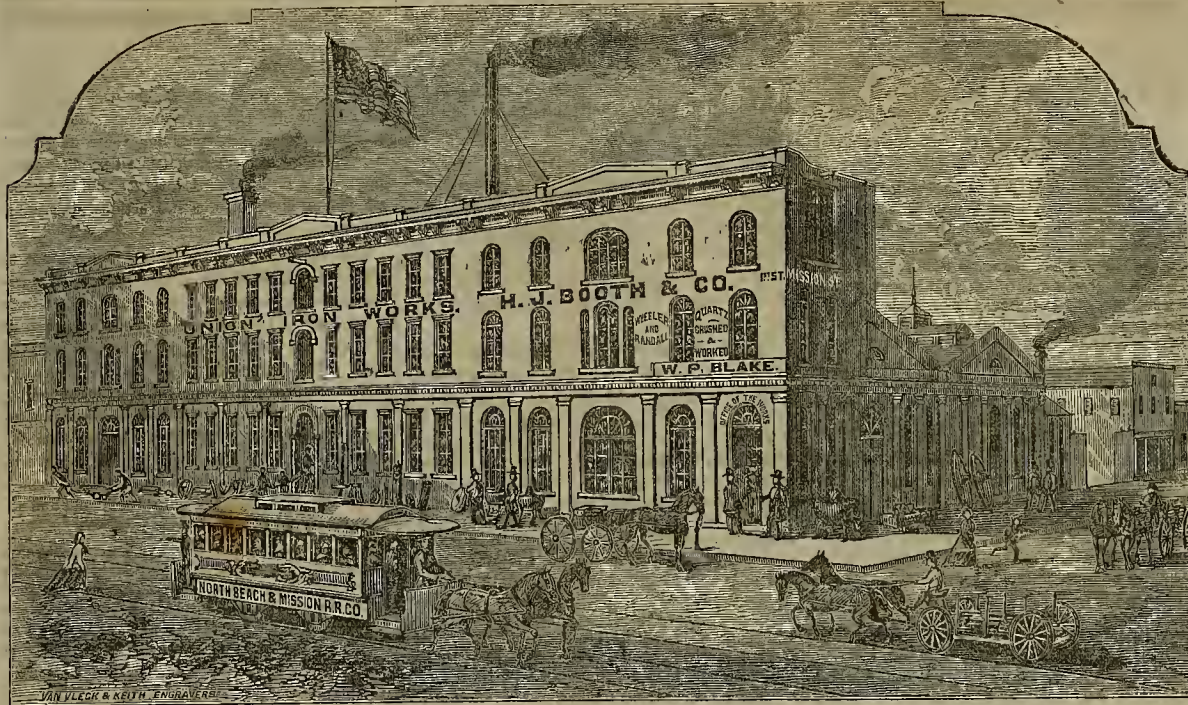
ALLEN'S LUNG BALSAM!

For the Cure of Consumption and all Diseases of the Lungs.

THIS BALSAM is introduced to the suffering public after its merits for the positive cure of such diseases have been fully tested. The formula from which it is prepared is referred to by the leading medical journals as being equal to any prescription that can be made up, for such diseases, by the medical faculty. The BALSAM is, consequently, recommended by physicians who have become acquainted with its great success. As an expectorant it has no equal! DR. A. L. SGOVILL, who has, for many years, been known to the public throughout the United States as the inventor of remedies for the lungs, recommends ALLEN'S LUNG BALSAM as surpassing anything that has ever been offered to the public for the cure of Lung Diseases. He has used it in his own family with great success in the case of his daughter, who was supposed to be in the last stages of consumption. This lady is now well, and has been permanently cured by Allen's Lung Balsam. 21v13-1m

To Capitalists,

GOLD QUARTZ MINE, SITUATED IN CALAVERAS County, with steam mill fitted up with Amalgamating Pans, etc. FOR SALE. The mine has three main veins, and more than \$50,000 have been spent in opening them and completing the mill. Good wagon roads all the way. Apply to
DELOO FREERES, Bankers,
535 Clay street, San Francisco.
23v13-6m



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hay, Rag, Sewing and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. F. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS.—Locomotive, Flue, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's Improved Tractory Curved Pan, Zonas Wheeler's Improved flat bottom pan, Belden's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Boers' pan, German Barrels, Arastra Gearing, Chile Mills. Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH & CO.

Machinists and Foundries.

PALMER, KNOX & CO., Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY, STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR, Tyler's Improved Water Wheel,

Giving the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.

KNOX'S AMALGAMATORS, WITH PALMER'S PATENT STEAM CHEST, Superior for working either Gold or Silver Ores. Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver.

WILLAMETTE IRON WORKS, PORTLAND, OREGON.

Steam Engines, Boilers,
SAW AND GRIST MILLS,
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,
18v13-ly One block north of Couch's Wharf.

UNION IRON WORKS, Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

JOHN WRIGHT, Pick Manufacturer,

No. 229 Fremont street, between Howard and Polson,
SAN FRANCISCO.

Has always on hand a general assortment of PICKS for Quartz and Surface Mining.
Particular attention is called to his RAISED EYE QUARTZ PICK, which is especially adapted to Quartz Mining, and guaranteed to give good satisfaction.

GEORGE T. PRACY, MACHINE WORKS,

Nos 109 and 111 Mission street, between Main and Spear,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL And Quartz Machinery, Printing Presses,

—AND—

MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

Special attention paid to Repairing—23 4y-3

T. G. DEXTER.

J. F. FISHER.

PACIFIC FILE FACTORY

No. 53 Beale Street,

Between Market and Mission streets, San Francisco.

FILES RECUT AND WARRANTED AS GOOD AS NEW,
or no charge. The only establishment in the State.
We also manufacture Reamer and Mower Sections.

8v13-ly DURNING & FISHER, Prop'rs.

LEWIS COFFEY & J. S. KIDSON, Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment in the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed in order, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

GLOBE

Foundry and Machine Shop, STOCKTON, CAL.

KEEP, BLAKE & CO.,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam
Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons,
House Fronts, Iron Fencing, Balcony Railings, etc.,
at San Francisco prices. Orders solicited
13v13-ly and promptly executed.

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction.

2. N. BACON. LYNAS STEWART.

BACON & STEWART, PRACTICAL MACHINISTS, No. 51 Beale street, San Francisco.

All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING PRESS work.
All jobs entrusted to us will be attended to with promptness and on reasonable terms. The patronage of the public is respectfully solicited.

J. O. HANSCOM & CO., { T. PENDERGAST, H. S. SMITH } { W. W. HANSCOM.

Etna Iron Works!

Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.

Practical Machinists and Iron Founders,
MANUFACTURE

STEAM ENGINES,

QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS,

Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER,

The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and
Amalgamator,

Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,

Giving greater power, at lower cost, than any wheel in use. Send for one of our circulars, giving full tables.

All Wheels warranted to give the power as set forth, or the money will be refunded.

Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies."

None genuine unless obtained from us. Every one warranted.

Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco.

NEPTUNE IRON WORKS,

Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MARINE,

Locomotive,

And all kinds of

HIGH PRESSURE

Steam Boilers

MADE.

All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.

All kinds of Sheet Iron and Water Pipe, Coal Oil

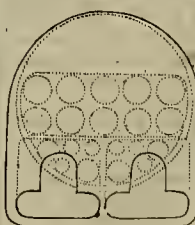
Stills, Wrought Iron

Nails, etc., etc.

Manufactured to Order.

Old Boilers Repaired.

D. CAMERON.



6v12-ly

OIL IN COLUSA COUNTY.—A correspondent of the Marysville Appeal of Dec. 1st, says: All except three companies, have abandoned for the present the search for oil. Of these, three, one, superintended by Col. Whiting, and located at Bott's, Antelope Valley, as I was informed, have gone down some 700 or 800 feet, with increasing prospects of success.

Another well, under the superintendence of Mr. Hughes, has penetrated earth and rock some three or four hundred feet in a little western branch of Antelope Valley, on the premises of the late John Lane. The prospects at this location are also very cheering.

Next we notice the well of "Louie" Lewis and Marcuse, located at or near where the waters of the Antelope make their exit from the mountains into the valley below. Louie is three hundred feet down, and the gas is now forcing the water up within touching distance of the top of the well.

These three enterprising companies have each steam engines running night and day, and great hopes are entertained of their early success.

LIGHT VS. HEAVY STAMPS.—We condense the following from the Colorado Journal: "We could wish that some of the money, time, ingenuity, etc., that have been expended here during the last two or three years in making and setting to work outlandish and impracticable machinery and processes, had been expended on the improvement of the stamp mill. That grand old stand-by of all gold quartz countries has actually, we believe, been growing clumsier, less effective, and more costly all the time. Mr. Belden is employing four different stamp mills. Of these, the old Empire mill, which is like our first crop of stamp mills—having narrow and close batteries and 450 lb. stamps dropping thirty times a minute—is doing by far the best. Mr. Bertola says that thirty years experience in quartz milling has taught him that Colorado has made the biggest mistake in the world in investing so largely in heavy, slow-moving stamps. He says, never make a stamp weighing more than 350 lbs."

The young Prince Imperial of France is learning the trade of the printer, under the charge of an adept. He will always have a means of livelihood, whatever may turn up.

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Bitter Braces, Hinges, Ship and Steamboat Belts and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

PRICES MODERATE. V. KINOWELL. [19v13-ly] J. H. WOOD.

SAN FRANCISCO Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of

Marine and Stationary Engines
Quartz Machinery, Saw, Flour and Sugar Mills, Milling Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Cider, Cotton and Tobacco Presses

of the latest Improved Patterns.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston-Packing, requires no springs or screws; is always steam-tight, without excessive friction, and never gets slack or leaky.

MACHINERY OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.

6v11-ly DEVOE, DINSMORE & CO.



JAMES MACKEN, COPPERSMITH.

No. 226 Fremont st., bet. Howard & Polson
All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

JOHN LOCHHEAD'S Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,

DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.

Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular.

25v12-3m

Trades and Manufactures.

WM. BARTLING, BENNY KIMBALL,
BARTLING & KIMBALL,
BOOK BINDERS,
Paper Rulers and Blank Book Manufacturers.
505 Clay street, (southwest cor. Sansome),
16v12-3m SAN FRANCISCO.

JOHN DANIEL,
(SUCCESSOR TO O. GORI)
MARBLE WORKS,
No. 421 Pine st. bet. Montgomery and Kearny, San Francisco
Mantels, Monuments, Tombs, Plumbers' Slabs.
Etc., On hand and Manufactured to order.
Goods shipped to all parts of the State. Orders re
spectfully solicited. 5v8-3m

NATHANIEL GRAY,
General Furnishing Undertaker,
641 Sacramento St., corner of Webb, San Francisco.
Barstow's Metallic Burial Caskets and Cases.
11v

THEODORE KALLENBERG,
Maker of Models for Inventors.
MACHINES, MATHEMATICAL, OPTICAL AND PHIL-
LOSOPHICAL Instruments, Scales, Weights, etc. Steel
Stamps, Dies and Die Sinking, Embossing Stamps. Repair
ing of machinery promptly attended to.
No. 418 Market street, San Francisco. n7-1f

Palmer's Patent
ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
629 Washington Street, San Francisco, Cal. 10v8-1m

HUCKS & LAMBERT,
SOLE MANUFACTURERS OF THE CELEBRATED
H. & L.
AXLE GREASE,
Natoma Street and North Beach,
SAN FRANCISCO. 2v13-3m

F. M. TRUWORTHY,
STENCIL PLATECUTTER,
—AND—
BRAND MANUFACTURER,
No. 321 Front street, corner of Commercial,
SAN FRANCISCO.

Names for Marking Linen, Brushes, Ink and Marking
Pots for sale. 9v13-3m

LEATHER HOSE AND BELTING,
ALL SIZES.
SUCTION HOSE MADE TO ORDER
At short notice, by

M. M. COOK & SON,
No. 801 Battery street,
SAN FRANCISCO. 13v13-3m

Empire Sewing Machine Company.
Principal Office, 616 Broadway, New York.

GREAT IMPROVEMENT IN SEWING MACHINES.
The Empire Shuttle, Crank Motion Sewing Machine. It is
thus rendered noiseless in action. Its motion being all pos-
itive, it is not liable to get out of order. It is the best Family
Machine. Notice is called to our new and improved
Manufacturing Machine, for Tailors and Boot and Shoe
Fitters. Agents wanted, to whom a liberal discount will
be given. No consignments made.
EMPIRE SEWING MACHINE COMPANY.
11v 7v13-5v

LEAD PIPE,
SHEET LEAD,
DROP AND BUCK SHOT
MINNIE BALLS, BAR LEAD, ETC.,

Are now manufactured at the
SAN FRANCISCO AND PACIFIC

Lead Pipe and Shot Works,
[Corner Howard and First streets,
SAN FRANCISCO.

Every article made at the above Works is WARRANTED
PERFECT, and made of pure, soft, refined LEAD. Orders
can be sent direct to the Factory, or to the subscribers.
THOS. H. SELBY & CO.,
13v13-3m 116 and 118 California street.

McNALLY & HAWKINS,
Plumbers and Gas-Fitters,
No. 645 Market street,
Adjoining R. C. Orphan Asylum, nearly opp. Mont'y street,
SAN FRANCISCO.

BUILDINGS FITTED UP WITH GAS,
WATER AND STEAM PIPES, and all work Warranted.
Have constantly on hand an assortment of Gas-Fixtures,
Lead and Iron Pipes, Marble Slabs, etc.
13v13-3m
ELECTROTYPE CUTS, ENGRAVINGS, ETC.—Our Job Printing
office is abundantly supplied with elegant engravings, orna-
ments, and other embellishments to suit the various
branches of industry in this State.

CARDS
\$3
Per 1,000
—AND—
Lower Rates
—FOR—
5,000.
Sterrett & Cubery,
PRINTERS,
533 Clay street,
—AND—
—BELOW—
MONTGOMERY STREET.
19v13-3m Low Prices.

WM. A. KOLLMYER,
LOOKING-GLASS
—AND—
PICTURE FRAME MAKER,
No. 41 Third street,
Near corner of Jessie.
19v12-6m

Professional Cards.

SHERMAN DAY,
Mining Engineer,
No. 57 Montgomery Block, San Francisco.
Will examine, survey and report upon mines, and consult
and advise concerning investments in mining property, or
the machinery management and expenditures of mines.
22v

FREDERICK MANSELL.
Mechanical & Architectural Draftsman,
No. 422 California street, corner of Leidsdorff.
Drawings of Models made for parties applying for pa-
ents at Washington or London. mar23-1f

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
COURT-COMMISSIONER, appointed by the Fourth District
Court, COMMISSIONER OF DEEDS for Nevada
and Massachusetts.
Court Block, San Francisco.
Entrances opposite City Hall, Merchant street, and 636
Clay street. 14v11-1f

W. E. GOLDSMITH.
Card and Seal Engraver,
505 Montgomery street, up-stairs, (over Tucker's),
SAN FRANCISCO.

Wedding and Visiting Cards printed with the utmost neat-
ness; Notarial, Commissioner and Society Seals. 19v13-2v

DR. H. AUSTIN,
DENTIST,
No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER SAN FRANCISCO BATHS]
SAN FRANCISCO. 20v10-4v

DR. D. R. BECKFORD,
OCULIST,
Office of Dr. Beckford's "Golden Eye Water,"
16v12-3m NO. 719 CLAY STREET.

AUGUST KUNAST,
Stock Broker.
Member of the
San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
Office, No. 640 Washington Street, San Francisco. 2v10

PHOTOGRAPHS
MADE BY
MESSRS. CHALMERS & WOLFE,
611 Clay street, San Francisco.
Are the best made in the city. An examination of their
specimens before going elsewhere, will prove the truth of the
above assertion. Prices—the lowest adopted by the
Association of Artists. Remember the place, 611 Clay
street. 11v13-2m

GEORGE H. POWERS, M. D.,
Gives exclusive attention to
Diseases of the Eye.
No. 626 California street, between Dupont and Kearny.
Dr. Powers refers, by permission, to Rev. A. L. Stone,
D.D., Ira P. Rankin, Esq., L. B. Benchley, Esq. 17v13-6m

DR. A. HARTMAN,
Electro-Magnetic Physician.
CURES ALL CURABLE DISEASES, BY THE CONGEN-
eration of the vital forces. Nature's own method of
cure. The blind made to see, the deaf to hear, the lame
made to walk, and the sick healed. Come and see the af-
flicted at the rooms. They will speak for themselves. The
poor treated free from 10 to 11 A.M. and 4 to 6 P.M. Operating
rooms, **Crim House**, 523 Kearny street, between Sacra-
mento and California. 21v13-m

ROWLAND, WALKER & CO.,
GROCERS,
Nos. 516 and 518 Washington street,
Are offering a complete assortment of GROCERIES at the
LOWEST RATES. Quality guaranteed.
Goods delivered at any point within the city limits.
22v13-1y

J. B. CONE, E. F. BOWMAN.
Employment and Business Agency.
J. B. CONE & CO.,
Supply Male and Female Help, sell Farms, Mines and places
of business, negotiate loans, and procure partners.
Orders sent by mail or express will be promptly attended to.
J. B. CONE & CO., No. 492 Montgomery street,
SAN FRANCISCO. 12v13-6

For Sale—Cheap.
A GOOD PAYING BUSINESS, TOGETHER WITH THE
good will of the party, controlling the entire trade of
this city and State. It is suitable to any intelligent business
man, and has averaged about \$500 per month. It is now
offered low, solely because the proprietor is compelled to
leave the city. Address "S. H." Lock Box 692 Post Office,
or inquire at S. W. HOWLAND'S, No. 21 California street,
San Francisco. 17v13-1m

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT
order for the accommodation of guests. Persons seek-
ing comfort and economy will find this the best Hotel in
the city to stop at. The Beds are new and in good order,
and the Rooms well ventilated. The Table will always be
supplied with the best in the market.
Prices, varying from \$1.50 to \$2 per day for
Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED
TO THE HOUSE.

Teams belonging to the House will be in attendance
at all the boats and cars to convey passengers to the House
FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYGANT, Proprietor.

GOVERNMENT HOUSE,
Corner of Sansome and Washington sts.,
SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN
every direction, every ten minutes.
The rooms of the House are well furnished, large
and airy, are let by the month, week or day, and are
kept in superb order. There is a Restaurant attached for
ladies and families, where persons can board for one-half
they are required to pay at hotels. 17v13-6m SANBORN & CO.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets,
opposite Steamboat Landing.
Meals, 25 cents.
Board, per week, \$4.00
Board and Lodging, per day, 1.00
Single Rooms, 50
Railroad Ticket Office and Stage Office on first floor.
7v12-3m A. J. SENATZ, Proprietor.

OLNEY & CO., Auctioneers,
418 Montgomery street, San Francisco.

Administrators' Sale of Real Estate.

NOTICE IS HEREBY GIVEN, THAT IN PURSUANCE
of an order of the Probate Court of the City and
County of San Francisco, in the State of California, made
on the fifth day of November, A. D. 1886, in the matter of
the estate of ELIZA ANN DOUGLAS, deceased, the under-
signed, the Administrator of said estate, will sell at public
auction, to the highest bidder, for cash, in one parcel, and
subject to confirmation by said Probate Court, on MON-
DAY, the third day of December, A. D. 1886, at 12 o'clock,
M., at the auction rooms of Olney & Co., No. 418 Montgomery
street, in the City and County of San Francisco, all the
right, title, interest and estate, of the said intestate at the
time of her death, to wit: the right, title, interest and estate
of the said intestate in and to that certain lot, piece, or
parcel of land, situate, lying, and being in the said City and
County of San Francisco, State of California, and bounded
and described as follows, to wit:
Commencing at a point in the southerly line of Broad-
way street, distant one hundred and fourteen feet six
inches easterly from the southeasterly corner of Broadway
and Powell streets; thence southerly at right angles to the
Broadway street, with Powell street one hundred and
seventy feet six inches; thence at right angles westerly nine-
teen feet six inches; thence at right angles southerly and
parallel with Powell street nineteen feet four inches;
thence at right angles easterly three feet six inches; thence
at right angles southerly and parallel with Powell street
forty feet eight inches; thence at right angles easterly
thirty-nine feet six inches; thence at right angles northerly
and parallel with Powell street one hundred and
thirty-seven feet six inches to the southerly line of Broad-
way street; thence westerly along the said line of Broad-
way street twenty-three feet six inches to the point of
beginning.
Terms and conditions of sale: Cash—ten per cent. of the
purchase money to be paid to the auctioneer on the day of
sale; balance on confirmation of sale by said Probate
Court; deed at expense of purchaser.
SAML S. MURFEY,
Administrator of the Estate of Eliza Ann Douglas, deceased.
San Francisco, November 10th, 1886. 19v13

NITRO GLYCERINE.
Nobel's Patent Blasting Oil!

WE ARE NOW PREPARED TO SELL NOBEL'S PAT-
ent Nitro Glycerine. The same is stored with Ma.
C. S. SWENSON, at Michigan Bluff, Placer county, from
where the Oil has to be received by purchasers.
Application to be made to Mr. C. S. Swenson, or to the
undersigned.

IGNITERS AND CARTRIDGES!
For sale at the same place.

Mr. Swenson is willing, if desired, to show purchasers
the mode of blasting, either at his own mine, Michigan
Bluff, or at the places of purchasers.
Pamphlets, with minute instructions, will be presented
to every purchaser or applicant.
BANDMANN, NIELSON & CO.,
21v13 210 Front street, San Francisco.

WE ARE NOW OFFERING
OUR IMMENSE STOCK
—OF—
Fine Custom-Made Clothing
—AND—

Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES
ROTH OF MATERIAL AND FINISH.

A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.
J. R. MEAD & CO.,
Cor. of Washington and Sansome streets.
8v10

Delays are Dangerous.—Inventors on the Pacific
Coast should bear in mind that by patronizing our Patent
Agency they can sign all necessary papers for securing pa-
tents almost immediately, thereby avoiding the three
month's delay requisite in transacting business through
Eastern agencies.

New Mining Advertisements.

Arbitros Mining Company, Batopilas Dis-
trict, State of Chihuahua, Mexico.
Notice.—There are delinquent, upon the following de-
scribed stock, on account of assessment (No. 12) levied on
the thirty-first day of October, 1886, the several amounts set
opposite the names of the respective shareholders, as
follows:

Names.	No. Certificate.	No. Shares.	Amount.
Dyer James P.	135	10	\$16.00
Dyer James P.	135	3	\$4.50
Parker George A.	76	25	\$37.50
Parker George A.	163	6	\$9.00
Stoddard R. R.	98	3	\$4.50
Stoddard R. R.	197	1	\$1.50
Stoddard R. R.	224	10	\$15.00
Stringer Wm I.	239	10	\$15.00
Stringer Wm I.	245	16	\$22.00
Wadhams Wm.	241	10	\$15.00
Total.		92	\$139.50

And in accordance with law, and an order of the Board
of Trustees, made on the thirty-first day of October, 1886,
so many shares of each parcel of said stock as may be ne-
cessary, will be sold at public auction, by Maurice Dore &
Co., No. 327 Montgomery street, San Francisco, Cal., on
Saturday, the twenty-second day of December, 1886, at the
hour of two o'clock, P. M. of said day, to pay said de-
linquent assessment thereon, together with costs of adver-
tising and expenses of sale.
A. MARTINOT, Secretary.
Office, 811 Montgomery street, San Francisco, Cal. dec8

Chalk Mountain Blue Gravel Company.—Lo-
cation of Works: Nevada County, California.

Notice.—There are delinquent upon the following de-
scribed stock, on account of assessment levied on the
fifth day of November, 1886, the several amounts set op-
posite the names of the respective shareholders, as fol-
lows:

Names.	No. Certificate.	No. Shares.	Amount.
Isaac Swain	34	852	\$129.10
Martin White	5	166	\$24.90
A J Downer, Trustee	24	100	150.00

And in accordance with law, and an order of the Board
of Trustees, made on the fifth day of November, 1886, so
many shares of each parcel of said stock as may be ne-
cessary, will be sold at public auction, at the salesroom of
Messrs. Olney & Co., at No. 418 Montgomery street, San Fran-
cisco, Cal., on Saturday, the twenty-second day of Decem-
ber, 1886, at the hour of 12 o'clock, M., of said day, to pay
said delinquent assessment thereon, together with costs of
advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.
Office, No. 10 Government House, corner Washington and
Sansome streets, San Francisco, California. dec8

Dios Padre Gold and Silver Mining Company,
Alamos, Mexico.

Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the fourth day of Decem-
ber, 1886, an assessment of three dollars (\$3) per share was
levied upon the capital stock of said company, payable
December fifth, 1886, in United States gold and silver coin,
to the Secretary, E. C. McCona, No. 1 Government House,
corner Washington and Sansome streets.

Any stock upon which said assessment shall remain unpaid
on the third day of January, 1887, shall be deemed de-
linquent, and will be duly advertised for sale at public
auction, and unless payment shall be made before, will be
sold on Tuesday, the twenty-second day of January, 1887,
to pay the delinquent assessment, together with costs of
advertising and expenses of sale. By order of the Board of
Trustees.

E. C. McCONA, Secretary.
Office, No. 1 Government House, corner Sansome and
Washington streets, San Francisco, Cal. dec8

Georgé Washington Gold and Silver Mining
Company.—Location of Works: Silver Mountain District,
Alpine County, Cal.

Notice.—There are delinquent, upon the following de-
scribed stock, on account of assessment levied on the sixth
day of November, 1886, the several amounts set opposite
the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alldorfer George	132	3	\$7.50
Alldorfer George	132	10	25.00
Arnold B. W.	322	10	25.00
Boggs Geo W.	137	6	15.00
Boggs A. O.	67	11	27.50
Brewer M. T.	241	6	12.50
Bibler Henry	357 358 5-c	10	25.00
DeGraft Wm.	142 143 144	60	150.00
Grigsby T. L.	146 216 19-a	10	25.00
Grigsby R. F.	169	10	25.00
Grigsby E. D.	79	10	25.00
Grigsby A. D.	100	10	25.00
Haskin D. H.	94	2	5.00
Iverson Iver	154	5	12.50
Iverson Iver	162	10	25.00
Kercheval Mrs. S. A.	210	10	25.00
Linn George	263	10	25.00
Miller John	182	5	12.50
McDonell A. C.	not issued	7	17.50
Mead Jas. A.	197	25	62.50
Nash C. H.	63	5	12.50
Nash C. H.	64	3	7.50
Phillips W. L.	92	15	37.50
Phillips W. L.	not issued	10	25.00
Pearson I. N.	not issued	10	25.00
Roberts J. R.	279	6	15.00
Tyler Richard	183	2	5.00
Vick Jos.	285	12	30.00
Vick Jos.	298	5	12.50
Whitton C. J.	299	5	12.50
Wines C. B.	273	5	12.50
Williams Sam'l	339	25	62.50
Williams Sam'l	280	5	12.50
Williamson John	300 318 319	25	62.50

And in accordance with law, and an order of the Board of
Trustees, made on the sixth day of November, 1886, so many
shares of each parcel of said stock as may be necessary, will
be sold at public auction, by Messrs. Olney & Co., 418 Mont-
gomery street, San Francisco, Cal., on the twenty-fourth
day of December, 1886, at the hour of 12 o'clock, M. of said
day, to pay said delinquent assessment thereon, together
with costs of advertising and expenses of sale.

A. C. WOOD, Secretary.
Office, 338 Montgomery street, San Francisco. dec8

Mount Tenabo Silver Mining Company.—Lo-
cation of Works: Cortez District, Lander County, State
of Nevada.

Notice is hereby given, that at a meeting of the Board of
Trustees of said Company, held on the fourth day of Decem-
ber, 1886, an assessment of two (\$2) dollars per share
was levied upon the capital stock of said Company, pay-
able immediately, in United States gold and silver coin, to
the Secretary, No. 331 Montgomery street, San Francisco,
California.

Any stock upon which said assessment shall remain un-
paid on the fourth day of January, 1887, shall be deemed
delinquent, and will be duly advertised for sale at public
auction, and unless payment shall be made before, will be
sold on Tuesday, the twenty-second day of January, 1887,
to pay the delinquent assessment, together with costs of ad-
vertising and expenses of sale. By order of the Board of
Trustees:

R. N. VAN BRUNT, Secretary.
Office, 331 Montgomery street, San Francisco. dec8

Our Circulation.—The Mining and Scientific Press
has a large and permanent subscription list, and enjoys a
more universal circulation among stockholders and per-
sons directly interested in mining than any other paper on
this coast.

Hanscom Copper Mining Company. Location: Low Divide District, Del Norte County, California.

Notice is hereby given, that the Annual Meeting of the shareholders of the above named Company will be held on FRIDAY, the 21st day of December, 1886, at 7 o'clock P. M., at the office of Hanscom & Co's Elina Iron Works, Fremont street, near corner of Tehama street, San Francisco, for the election of Trustees to serve the ensuing year, and for the transaction of other business.

H. S. SWITZER, Secretary.

Smith-Cox Petroleum Oil Works Company. Location: Santa Cruz County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of December, 1886, an assessment (No. 18) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at the office of the Company, 606 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Tuesday, the eighth day of January, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-ninth day of January, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.

Office, 415 Montgomery street, San Francisco, Cal. d3

Mining Notices—Continued.**Chippewa Mining Company.** District of Ures, Sonora, Mexico.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the thirty-first day of October, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buzzell D.	11	50	\$120 00
Buzzell D.	12	50	120 00
Chavez E.	13	50	120 00
Demaro F.	14	15	90 00
Demarzo A.	15	5	25 00
Hander F.	16	30	150 00
Harrell D.	17	145	725 00
Harrell D.	18	90	450 00
Harrell D.	19	75	375 00
Harrell D.	20	10	50 00
Harrell D.	21	10	50 00
Larso S.	22	400	2,000 00
Lynch F. E.	23	60	300 00
Lynch F. E.	24	30	150 00
Mosher J.	25	10	50 00
Mosher J.	26	10	50 00
Mosher J.	27	26	130 00
Spiloni G.	28	9	45 00

And in accordance with law, and an order of the Board of Trustees, made on the thirty-first day of October, 1886, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 401 Montgomery street, San Francisco, Cal., on Monday, the seventeenth day of December, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up stairs, San Francisco, California. dec1

Chippewa Hill Gold and Silver Mining Company. Albany Flat or Hill District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of November, 1886, an assessment of fifteen cents (15) per share was levied upon the capital stock of said Company, payable on the fifteenth day of November, 1886, in United States gold and silver coin, to the Secretary, at the office of the Company's office, 606 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the tenth day of December, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of December, 1886, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. B. SENAILHAC, Secretary.

Office, 606 Montgomery street, San Francisco, Cal. no10

Colorado Silver and Copper Mining Company.

Notice—The Annual Meeting of the stockholders of the Colorado Silver and Copper Mining Company, will be held at the Company's office, No. 623 Clay street, San Francisco, on MONDAY, December 21st, 1886, at 3 o'clock P. M., for the election of Trustees, and the transaction of such other business as may properly come before it.

a10 4w B. W. MUDGE, Secretary.

Humboldt Gold and Silver Mining Company. Sierra District, Humboldt County, Nevada.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of September, 1886, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
A. W. Macpherson	213	113	\$225 00
John H. Turner	145	100	200 00
John H. Turner	146	32	64 00
John A. McQuaid	3	5	10 00
John A. McQuaid	4	5	10 00
John A. McQuaid	5	5	10 00
John A. McQuaid	6	5	10 00
John A. McQuaid	7	5	10 00
John A. McQuaid	8	5	10 00
John A. McQuaid	9	5	10 00
John A. McQuaid	10	5	10 00
John A. McQuaid	11	5	10 00
John A. McQuaid	12	5	10 00
John A. McQuaid	13	5	10 00
John A. McQuaid	14	5	10 00
John A. McQuaid	15	5	10 00
John A. McQuaid	16	5	10 00
John A. McQuaid	17	5	10 00
John A. McQuaid	18	5	10 00
John A. McQuaid	19	5	10 00
John A. McQuaid	20	5	10 00
John A. McQuaid	21	5	10 00
John A. McQuaid	22	5	10 00
John A. McQuaid	23	5	10 00
John A. McQuaid	24	5	10 00
John A. McQuaid	25	5	10 00
John A. McQuaid	26	5	10 00
John A. McQuaid	27	5	10 00
John A. McQuaid	28	5	10 00
John A. McQuaid	29	5	10 00
John A. McQuaid	30	5	10 00
John A. McQuaid	31	5	10 00
John A. McQuaid	32	5	10 00
John A. McQuaid	33	5	10 00
John A. McQuaid	34	5	10 00
John A. McQuaid	35	5	10 00
John A. McQuaid	36	5	10 00
John A. McQuaid	37	5	10 00
John A. McQuaid	38	5	10 00
John A. McQuaid	39	5	10 00
John A. McQuaid	40	5	10 00
John A. McQuaid	41	5	10 00
John A. McQuaid	42	5	10 00
John A. McQuaid	43	5	10 00
John A. McQuaid	44	5	10 00
John A. McQuaid	45	5	10 00
John A. McQuaid	46	5	10 00
John A. McQuaid	47	5	10 00
John A. McQuaid	48	5	10 00
John A. McQuaid	49	5	10 00
John A. McQuaid	50	5	10 00
John A. McQuaid	51	5	10 00
John A. McQuaid	52	5	10 00
John A. McQuaid	53	5	10 00
John A. McQuaid	54	5	10 00
John A. McQuaid	55	5	10 00
John A. McQuaid	56	5	10 00
John A. McQuaid	57	5	10 00
John A. McQuaid	58	5	10 00
John A. McQuaid	59	5	10 00
John A. McQuaid	60	5	10 00
John A. McQuaid	61	5	10 00
John A. McQuaid	62	5	10 00
John A. McQuaid	63	5	10 00
John A. McQuaid	64	5	10 00
John A. McQuaid	65	5	10 00
John A. McQuaid	66	5	10 00
John A. McQuaid	67	5	10 00
John A. McQuaid	68	5	10 00
John A. McQuaid	69	5	10 00
John A. McQuaid	70	5	10 00
John A. McQuaid	71	5	10 00
John A. McQuaid	72	5	10 00
John A. McQuaid	73	5	10 00
John A. McQuaid	74	5	10 00
John A. McQuaid	75	5	10 00
John A. McQuaid	76	5	10 00
John A. McQuaid	77	5	10 00
John A. McQuaid	78	5	10 00
John A. McQuaid	79	5	10 00
John A. McQuaid	80	5	10 00
John A. McQuaid	81	5	10 00
John A. McQuaid	82	5	10 00
John A. McQuaid	83	5	10 00
John A. McQuaid	84	5	10 00
John A. McQuaid	85	5	10 00
John A. McQuaid	86	5	10 00
John A. McQuaid	87	5	10 00
John A. McQuaid	88	5	10 00
John A. McQuaid	89	5	10 00
John A. McQuaid	90	5	10 00
John A. McQuaid	91	5	10 00
John A. McQuaid	92	5	10 00
John A. McQuaid	93	5	10 00
John A. McQuaid	94	5	10 00
John A. McQuaid	95	5	10 00
John A. McQuaid	96	5	10 00
John A. McQuaid	97	5	10 00
John A. McQuaid	98	5	10 00
John A. McQuaid	99	5	10 00
John A. McQuaid	100	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of September, 1886, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the auction rooms of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on the twenty-seventh day of November, 1886, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

G. O'HARA TAAFFE, Secretary.

Office, No. 430 California street, San Francisco, Cal. no3

POSTPONEMENT.—The above sale is hereby postponed until Tuesday, the eighteenth day of December, 1886, at the same time and place. By order of the Board of Trustees.

O. O'HARA TAAFFE, Secretary.

Hope Grovel Mining Company. Location: Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of November, 1886, an assessment (No. 11) of one dollar per share was levied upon the capital stock of said Company, payable on the seventeenth day of November, 1886, in gold coin of the United States, to the Secretary, at the office of the Company, No. 523 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Saturday, the twenty-ninth day of December, 1886, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirty-first day of January, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 523 Clay street, San Francisco, Cal. n24 5w

Keynote Mining Company. Location: Works: Copperopolis, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of November, 1886, an assessment of ten dollars (\$10) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 440 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on Monday, the twenty-first day of January, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of February, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. P. SUTTON, Secretary.

Office, 440 California street, San Francisco, Cal. no21

La Blanca Gold and Silver Mining Company. District of Ures, State of Sonora, Mexico.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of October, 1886, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Blumhardt Wm.	183	50	\$75 00
Blumhardt Wm.	184	50	75 00
Blumhardt Wm.	185	50	75 00
Blumhardt Wm.	186	50	75 00
Blumhardt Wm.	187	50	75 00
Blumhardt Wm.	188	50	75 00
Blumhardt Wm.	189	50	75 00
Blumhardt Wm.	190	50	75 00
Blumhardt Wm.	191	10	15 00
Blumhardt Wm.	192	10	15 00
Blumhardt Wm.	193	10	15 00
Blumhardt Wm.	194	10	15 00
Blumhardt Wm.	195	10	15 00
Blumhardt Wm.	196	10	15 00
Brendel Charles.	211	10	15 00
Brendel Charles.	212	2	3 00
Brendel Charles.	217	8	12 00
Barekhausen J.	171	6	7 50
Barekhausen J.	212	6	7 50
Barekhausen J.	510	3	3 00
Drossel Jos.	413	4	6 00
Drossel Jos.	411	2	3 00
Goldmann J.W.	224	5	7 50
Goldmann J. F.	348	1	1 50
Herrmann J. F.	230	1	1 50
Herrmann J. F.	230	5	7 50
Herrmann J. F.	295	3	4 50
Herrmann J. F.	337	3	4 50
Hans M. L.	233	15	22 50
Hans M. L.	237	2	3 00
Marks A. C.	72	10	15 00
Marks A. C.	73	10	15 00
Marks A. C.	74	15	22 50
Marks A. C.	267	8	12 00
Marks A. C.	411	3	4 50
Micheisen H.	418	10	15 00
Minges Abraham	444	103	154 50
Quellert C. C.	454	5	7 50
Rittler W. H.	410	6	9 00
Rittler W. H.	415	24	36 00
Steinhach E.	421	6	9 00
Steinhach E.	462	6	9 00
Trenkle E.	456	6	9 00
Wajzman M.	163	6	9 00
Wajzman M.	169	6	9 00
Wajzman M.	489	6	9 00

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Framc; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been burned. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

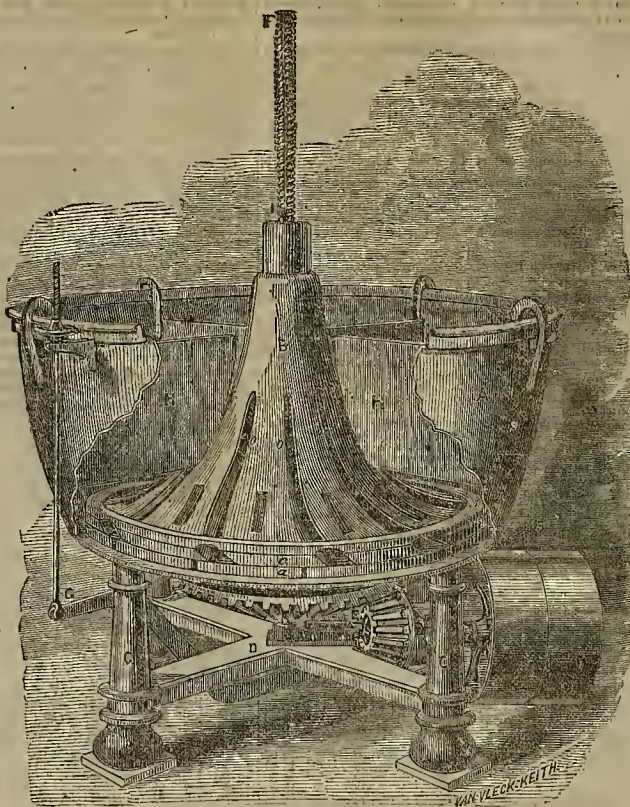
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

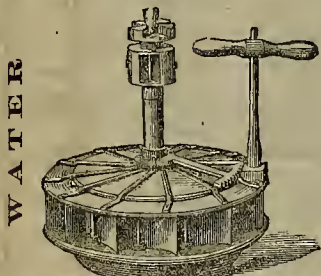
WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 210 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in minor inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to KNAPP & GRANT, San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Truck Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Truck Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Truck Jacks of the most superior make and kind. For sale by 12v12-3m KNAPP & GRANT, San Francisco.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery OF ALL KINDS.

Especial attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

Governor F. R. Low; C. T. Meador, Stockton; Jacob Underhill & Co., San Francisco; J. W. Storer, Russell & Erwin Manufacturing Company; Office, No. 120 Front street, San Francisco. 4v12

Coffey & Risdon, San Francisco; Geo. K. Guyan, Chief Engineer of Cal. S. Nav. Co., San Francisco.

HUNTER'S IMPROVED CONCENTRATOR.

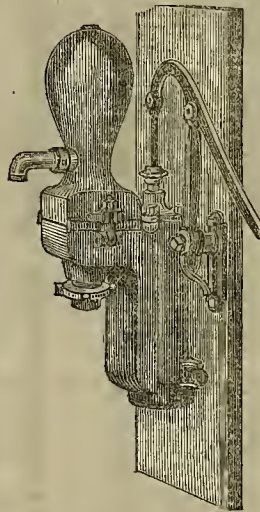
THE INVENTOR OF THE ABOVE RECENTLY IMPROVED Machine, is now prepared to take contracts for concentrating gold or silver ores on shares, receiving a certain per cent. of the sulphurets as may be agreed upon; and will guarantee twenty per cent. more sulphurets than from any rocker or concentrator built on the Pacific coast, saving at least ninety per cent. of the sulphurets contained in the ore. The sulphurets, if desired for shipping, will contain less than one per cent. of sand.

Persons who have sulphureted ores will do well to have their sulphurets saved; as the many failures in mining can often be attributed to the waste of sulphurets. For particulars, address

ANDREW HUNTER, Inventor, San Francisco.

22v12-3m

The Hansbrow Pumps



ARE WARRANTED THE

BEST PUMPS OFFERED.

All Sizes, for any Purpose,

FOR SALE BY

LOCKE & MONTAGUE,

112 and 114 Battery Street,

SAN FRANCISCO.

16v12-2m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

19v12

T. KALLENBERG, 416 Market street, San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

SV13F

SAN FRANCISCO.

Hunt's California Pump

Has all the advantages of any other Pump, is one third cheaper and more durable, will draft water as deep and force as high as any others, is not liable to get out of order, and is easily repaired by any one.

All these Pumps are fitted to work by hand if desired. These Pumps have given good satisfaction to all who have used them during the last three years. Good judges have examined and pronounced them to be the cheapest and best Pumps in use.

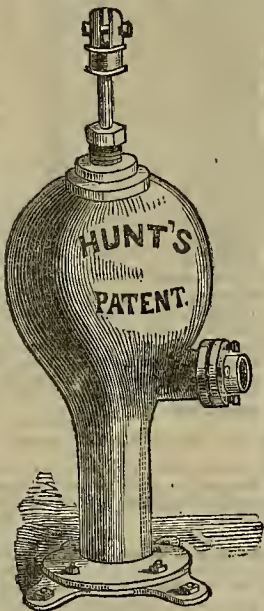
Manufactured at Hunt's Windmill Factory, 23 Second Street and 110 Jessie Street.

Also, Tread Horse Powers, Pumping Frames for Irrigation, Saw Frames, Sweep Horse Powers and Frames, all in one frame, the horse to travel around the frame.

PRICES OF HUNT'S CALIFORNIA PUMPS.

No. 3—3-inch cylinder, 6-inch stroke.....	\$30 00
No. 4—3½-inch cylinder, 6-inch stroke.....	35 00
No. 5—4-inch cylinder, 6-inch stroke.....	45 00
No. 6—5-inch cylinder, 8-inch stroke.....	60 00
No. 8—8-inch cylinder, 12-inch stroke.....	90 00

A liberal discount made to the Trade.
For further particulars, send for Circular.
E. O. HUNT, 21v13F 23 Second and 110 Jessie streets, San Francisco.



VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the

PACIFIC FOUNDRY, San Francisco.

1v1

PATENT BUSINESS.

We have lately associated with us in the Patent and Mechanical Department of the Mining and Scientific Press, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants in a careful, prompt and efficient manner.

SAN FRANCISCO, June, 1866. DEWEY & CO., Patent Solicitors.

Brevities.

BLACK TEA, of fine quality, is now raised in Georgia.

FORTY-TWO millions of gallons of distilled spirits are annually consumed in this country.

B. N. BUGBER, of the Nafoma vineyard, near Folsom, has made nineteen tons of raisins this season.

THE Russian Government has given orders to the Colt's Fire-arms Company of Hartford, Conn., for 100,000 Laidley breech-loaders.

Two scientific gentlemen, from the Royal Swedish Institution, are now, at the instance of their Government, inspecting the iron works of the United States.

A SECTION of a red-wood tree from California, intended for the Paris Exposition, has reached the Department of the Interior. It is eight feet in diameter, and two and a half inches thick.

TWO hundred and twenty-five tons of linseed from Calcutta arrived in this city a short time since. The operations of the Pacific Oil and Lead Works will commence about the first of January.

CARBOLIC ACID, as a disinfectant, is unrivaled. Several experiments have recently shown that the virus of rinderpest mixed with a trace of this acid, becomes incapable of transmitting the disease.

At a meeting of the committee which is to represent the California Chamber of Commerce in the Paris Exposition, Prof. W. P. Blake exhibited the largest collection of gold crystals in the world. He has been occupied for fourteen years in making it.

In order to test the comparative merits of the English and American ordnance, the English Government has ordered from the United States, one of the 15-inch Rodman guns, together with improved carriage, shot and powder.

At Shoburness, Eng., a short time since, a Palliser bolt of chilled iron, weighing 254 pounds, was fired with a charge of forty-three pounds of powder, from a 9-inch Woolwich rifled gun. The bolt penetrated a target made of solid rolled iron eight inches thick, backed by eighteen inches of teak wood.

The Ancient River System.

A writer in the MINING AND SCIENTIFIC PRESS, from Sierra county, has contributed a number of articles on mining subjects, which we have read with interest and profit, as they are evidently the production of a careful observer and show some scientific attainments. Sometimes we have had to dissent from his conclusions, and this has especially been the case in some of his papers relating to the ancient river channels of the Sierra Nevada mountains, or what is known by the miners as the "Blue Lead." The writer is of the opinion that there was but one large stream in which the blue gravel has been deposited, and he goes so far as to attempt to describe its course, together with its branches, and reconstruct the ancient river system. In his opinion, the ancient river took its rise in Plumas county; flowed in a southerly direction through Sierra, Nevada, Placer, El Dorado and Calaveras counties, and discharged its waters into the ocean, which at that time covered what is now San Joaquin county.

The writer's theory is the same as has generally obtained recognition among miners for many years; but developments have constantly been making in Nevada county inconsistent with the theory of one main ancient river, until now this theory is generally discarded. The better opinion now is, that the ancient streams which deposited the blue gravel were as numerous as the streams of the present day; that they carried as much water, perhaps more, and their general course was about the same. There are evidences of four such streams in Nevada county, having their source near the summit, and running south or west through the entire length of the county. If a large stream ever crossed the county from north to south, it must have belonged to a different river system from the blue gravel leads that have been opened and worked. The stream on the south side of this county had its source near Meadow Lake, and its course has been traced by surface indications to Yon Bet. Operations are now in progress at Bear Valley and Chalk Bluff to find its channel. The two middle streams probably joined their waters at no great distance below Nevada, and bad their outflow near Smartsville. The other stream had its source near the head-waters of the Middle Yuba, and its course was down what is now the Eureka ridge. The field for mining operations in the channels of these streams is of incalculable extent. The time will come when the ancient river system of the State will be reconstructed; and the subject might well engage the attention of geologists and scientific men.—Nevada Gazette.

RESE RIVER RESOURCES.—We extract the following from the report of the Assessor of Lander county, Nevada. The date is Austin, November, 1866:

The principal production of silver has been from the more developed mines in and around the city of Austin. Lately many new, large and rich veins have been discovered and prospected in the eastern and southeastern part of the State, which show evidences of great and lasting wealth.

The distance of Central and Eastern Nevada from the coast, the newness and undeveloped condition of the country, and consequent high price of labor and supplies, and want of capital, has operated adversely to the interests of the miners and caused many failures. As the country becomes more opened and cultivated, labor and materials lower in price, many mines which are now unproductive will be opened and made profitable, and occupation and means of good support thereby afforded for a large population.

There are erected and in process of construction thirty-four steam hoisting works, varying in motive power from six to thirty-horse power, and at an average cost of about \$6,000 each. There are many other mines worked by horse whips and by hand.

There are twenty-four mills for the reduction of silver ore, of which twenty-two are run by steam and two by water power. They vary from five to twenty stamps each. The whole number of stamps is about 250. Dry crushing and roasting is the general practice in the reduction of ores. About three-fourths of a ton of ore is crushed per stamp in twenty-four hours.

It has been found necessary to roast all the ores to obtain a profitable return, which makes the cost of reduction much more than in the western part of the State. The present cost of reduction at custom mills is \$45 to \$50 per ton.

For the nine months ending 30th of September, 1866, there were reduced in this county, as per mining assessment roll, 4,364 tons of ore, which produced the sum of \$507,301—averaging \$116.25 per ton.

The deepest mining shaft, which is in the city of Austin, is upwards of 400 feet in depth. There are several other shafts and inclines which reach 300 feet and upwards.

The best and most productive mines are those upon which deep inclines and shafts have been sunk. These are the Savage, Great Eastern, Diana, Yankee Blade, Whitlatch Yankee Blade, Whitlatch Union, Camargo, North River, Timoke, Cortez and some others. Most of them produce ores which average in value \$150 and upwards.

MELLVILLE C. KEITH, M. D.

Homeopathic Physician,
No. 655 Howard Street, between Second and Third,
SAN FRANCISCO.
Devotes special attention to CANCER, PARALYSIS and
CHRONIC DISEASES. Consultation free.
18v15 6mtr

Mammoth Quartz Lode, Keysville District, Kern County.

"To all whom it may concern,"

ALL PARTIES negotiating for interests in the above Lode, would do well to examine titles before investing, as the legal title to a considerable portion thereof is vested in the undersigned.

WILLIAM MARSH,
W. L. KENNEDY.
Keyville, Kern County, Oct. 1, 1866. J6v13m3m

MOUNT DIABLO COAL.

CHEAP FUEL!
Cheaper than the East.
From the Independent Mine, at \$10 per ton.
GREENHOOD & NEWBAUER,
Nos. 207 and 209 Sansone street, between California
and Pine.
14v13 3m

J. MARSHALL, W. WYLLIE.

GLASGOW IRON AND METAL IMPORTING CO.,

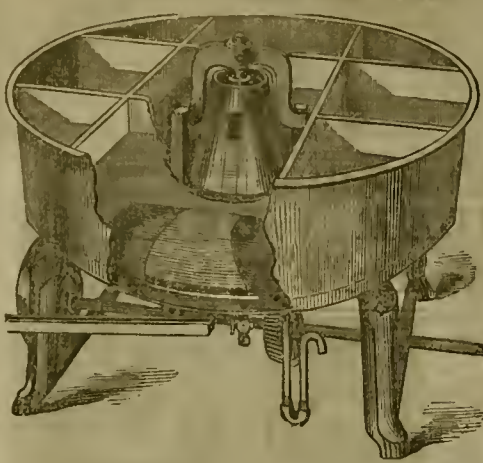
No. 27 Fremont street,
SAN FRANCISCO.
Beg to inform purchasers that they have just received a large stock of Glasgow and Staffordshire best refined
Bar Iron, Boiler Plate, Axes, Cast Steel,
Boiler Tubes, Gas and Water Pipes,
GAS FIXTURES, etc. They offer the same for cash, on liberal terms, at wholesale and retail. The Company have superior facilities for supplying the constant demands of the market.
Country Orders punctually attended to. 19v13q



STANDARD SOAP COMPANY'S WASHING POWDER.

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for use in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1 lb each, and in wooden boxes of 10 lbs bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street,
San Francisco. 15v12q

Knox's Improved Patent Amalgamator and Separator, With Palmer's Patent Steam Chamber or Die.



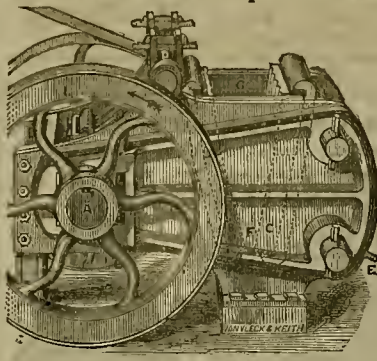
For further particulars, inquire of

14v13 p12q

At the Golden State Iron Works, No. 19 First street, San Francisco.

Machinery.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.
The attention of all interested in Mining is respectfully called to this Improved Machine for breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the inventors are enabled to offer these machines to the public at the following low terms:
No. 1—Or 6 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600
No. 2—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour. \$850
No. 3—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour. \$1,200

EXPLANATION OF THE ABOVE ENGRAVING.
The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass over it. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa County, Rawhide Ranch, Tuolumne County, Excelsior Mine, Lake District, Nevada County, and can be seen in operation at the Fulton Foundry, First street, San Francisco.
The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:
Rawhide Ranch, Tuolumne Co., Sept. 28, 1866.
JAMES BRODIE, Esq., San Francisco: My Dear Sir: I give you pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,
R. P. JOHNSON,
Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1861. Further particulars will be afforded on application to the subscribers.
Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st November, 1866, the royal charter using the same will be raised to the sum of \$100 per Barrel.
A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.
A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22nd, 1866.
BRODIE & RADCLIFFE,
Express Building, 402 Montgomery street,
San Francisco. 12v13tr

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.
8v13-ly Stove Store, No. 125 Clay street, below Davis.

Such a Journal has been needed on the Pacific Coast. The Press fills the bill.—[Rose River Reveller.

THIS CUT REPRESENTS AN AMALGAMATOR and Separator that has stood the test of thirty years' practical working in the gold mines of California, and for nearly the same time in the silver mines of Nevada, having been introduced into the first steam mills built in the latter Territory, since which time they have been successfully working against all competition.

The great advantages these Amalgamators have over any others, are—

1st. Much less Cost.

2d. They do not "floor" the mercury, and collect any that may have been "sicked out" in the battery or grinders.

3d. The "shaking" motion given to the pulp (by the revolution of the miller under the stationary frame) against the amalgamator-copper plates that are fastened to the frame, and by this means catching the fine gold and mercury that will not settle.

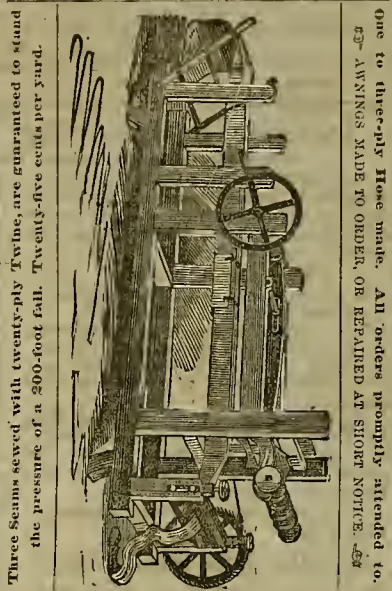
4th. The pulp in the cone, through which the pulp is discharged, from the top, and where there is the least motion, almost precluding the possibility of any granulated mercury or fine gold escaping.

There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

ISRAEL W. KNOX, or

W. A. PALMER, Inventors,

PATENT HYDRAULIC HOSE SEWING By S. HOWARD.



No. 326 DAVIS STREET, San Francisco.
22v13 3m

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.
PICKERING'S GOVERNORS
For Steam Engines.

Giffard's Injectors,
For Feeding Boilers.

STODDART'S IRON WORKS,
114 Beale Street, San Francisco.
23v12 3m

STRONG & CO'S

CELEBRATED UNION PAN!

A fast Grinder and thorough Amalgamator; has double Mullers, Rolling Shoes and reverse action. Millmen and others are respectfully invited to examine this Pan, before purchasing others, as it gives the best satisfaction. Can be seen in operation, daily, at the San Francisco Foundry, Fremont street, near Mission.
Ores, in lots not exceeding 2,000 pounds, tested by
22v13 G. W. STRONG, Assayer.

CAUTION!

NOTICE.—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 27th, 1865, to Professor Henry Wurtz, for the use of Sodium and Amalgams thereof with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.

SODIUM OR MAGNETIC AMALGAM.

THE WURTZ AMALGAMATION COMPANY,
OF NEW YORK,
Assesses of letters patent granted to Prof. Henry Wurtz, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, constantly on hand.
The terms and conditions upon which rights to use the process are obtainable, can be had on application to
WM. SLOSSON,
Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 5v13

FOR SALE!

QUARTZ AND MINING MACHINERY

ONE GARDNER'S THUNDERBOLT CRUSHER. LARGEST size and best quality; is entirely new, with all extras—with a large lot of other Quartz Machinery, including Engines, Boilers, etc.
16v13 COFFEY & RISON.

Ready for the Steamer "Colorado," On the 1st of January, 1867.

TO BE PUBLISHED ON THE DEPARTURE AND ARRIVAL of the Pacific Mail Company's steamer to and from China.

THE CALIFORNIA CHINA MAIL —AND— FLYING DRAGON NEWSPAPER.

Printed both in the English and Chinese languages, for China, Japan, Australia, Borneo, Siam, Malacca, Singapore, Hindustan, etc., etc.

Ahead of Europe in its commercial intercourse with the countries of the East; and ultimately this line of communication must be the preferred road of the silk trade, etc., instead of the Suez route.
The price of the "California China Mail" will be Twenty-five Cents per number—Annual Subscription, including Supplements, \$10 per Annum.

Advertisements, business notices, etc., in English only, will be charged fifteen cents a line; in CHINESE and ENGLISH, twenty-five cents per line; and one dollar extra for the translation of the first fifty characters; and one cent per character all exceeding fifty.
Copies of THE CHINA MAIL AND FLYING DRAGON may be had at all the offices of the Pacific Mail Steamship Company, in China and Japan.
Office, 528 1/2 Clay street, San Francisco. 18v13tr

The Mercantile Gazette

PRICES CURRENT, E. D. WATERS, Proprietor.

Office, Northeast corner Clay and Battery sts.,
SAN FRANCISCO.

The Mercantile Gazette and Prices Current is the only

Commercial Paper

ON THE PACIFIC COAST.

PUBLISHED EVERY STEAMER DAY.

Terms, \$9 per Year, payable in advance.

THE LETTER SHEET PRICES CURRENT

For enclosure in letters, is also published every STEAMER DAY.
13v13tr

BELLAMBI COAL!

A SUPERIOR ARTICLE OF SMITHS' COAL.

FOR SALE IN QUANTITIES TO SUIT,
At Greatly Reduced Rates.

Sacked to order for Shipment to the Country.
Apply to
FLINT, PEABODY & CO.,
408 CALIFORNIA STREET, San Francisco.
18v13qy

REPORT

COMMITTEE

SEWING MACHINES!

California State Fair, 1866:

"TO THE PRESIDENT OF THE STATE AGRICULTURAL SOCIETY: Your Committee on Sewing Machines beg leave to report that we have examined the several Sewing Machines on exhibition, (the Grover and Baker, the Wheeler & Wilson, and the Florence,) and find that

FOR GENERAL FAMILY USE

"FLORENCE"

"THE BEST."

(Signed) J. N. ANDREWS,
THOMAS C. MCMALE,
L. ELKUS.

If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco Office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.

General Agent, 111 Montgomery street, San Francisco.
17v13

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge. If our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

THE SUTRO TUNNEL.—We have received a copy of a beautifully printed pamphlet, the object of which is to lay before the public the present position of affairs regarding the contemplated "Sutro Tunnel," and to present its claims to consideration by capitalists as a desirable investment.

Mr. Sutro has just returned from New York, which he visited for the purpose of laying the matter before the capitalists of that city, intending, if necessary, to visit Europe also. But after a careful examination of the project, some forty or fifty prominent gentlemen gave it as their opinion in writing, in the form of a letter to Mr. Sutro, that although they were fully convinced of the importance of the enterprise, the fact that no portion of the capital had been subscribed on this coast, would be a fatal impediment to its success, both in the Atlantic States and in Europe; and advised him to return at once to San Francisco, and use every effort there to get the work started, adding, that when the tunnel was fairly in progress, he might rely upon their aid. He therefore returned, and now issues the above-mentioned pamphlet.

The estimated annual revenue of the Tunnel Company from contracts with the mining companies on the Comstock lode alone, will be about *six and a half millions* of dollars. When we take into account, in addition to this, the amount to be realized from the sale of land, and the prospective value of the new mines which the tunnel will develop, we can form some conception of the magnitude of the franchise.

We cannot but look upon this enterprise as a most important one. Although the immediate interests of a portion of the people of Virginia City and Gold Hill may apparently suffer, the work would unquestionably redound to their benefit in the end. The energetic perseverance which Mr. Sutro has evinced in the prosecution of the project, deserves success.

AN AMERICAN FAMILY IN GERMANY, is the title of an interesting book of travels, by Mr. J. Ross Browne, just issued from the Harpers press, a copy of which has been received from the author. In addition to the matter indicated by the title, the book also contains "A Whirl through Algeria," and "A Visit to the Salt Mines of Wieliczka" in Poland. The reputation which Mr. Browne has obtained as a traveler, and the novel and interesting manner in which he always contrives to clothe his descriptions of well known localities, always give his works the freshness and interest which are usually found only in the sketches of those who push their way into unknown or unfrequented countries. Mr. Browne is a most indefatigable traveler, and his habits of close observation, and happy mode of expressing them, always invest his productions with novelty and interest. We shall endeavor to find room for some extracts in a future number.

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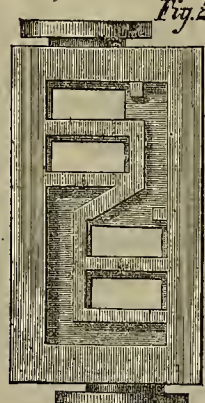
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The following resolution was adopted by the California Miners' State Convention, held at Sacramento, Jan. 17th, 1866:

Resolved, That we regard a mining paper or journal of great importance to the mining interest of California, and we recommend the Mining and Scientific Press, of San Francisco, to the consideration and support of the miners of the Pacific coast.

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SAN FRANCISCO, SATURDAY, DECEMBER 15, 1866.

VOLUME XIII.
Number 24.

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THE PIONEER TYPE FOUNDRY.

We were the first to announce, some weeks since, the fact that the Messrs. William and George L. Faulkner, father and son, had made arrangements to establish a type foundry in this city, at their well known place of business, 411 Clay street, on a scale which should be fully commensurate with the growing wants of the entire Pacific coast. That important enterprise was fully inaugurated on Tuesday last, on which occasion a large number of gentlemen, practically engaged in the printing business, assembled by invitation of the Messrs. Faulkners, to witness the interesting operation of type founding.

Some idea of the enterprise connected with the undertaking, may be formed from the fact that, including this, there are only thirteen type foundries in the United States, located as follows: New York city, 6; Boston, 2; Philadelphia, 1; Cincinnati, 1; St. Louis, 1; Chicago, 1; and San Francisco, 1. It is further estimated that fully \$2,000,000 have already gone from this to Eastern cities for the purchase of type, creating a specie drain which has now reached a considerable magnitude, and which the establishment of this foundry will be likely to pretty effectually close up; as we understand that the Messrs. Faulkner propose to furnish type here at prices which shall prevent importation, so far as the same may conflict with their manufacture. Having secured the most improved machinery, and skill fully equal to that employed in any of the Eastern foundries, they are prepared to furnish as good a quality of type as can be elsewhere obtained. By this arrangement, parties will also be able to get the fullest value for their old type, immense quantities of which are constantly accumulating on this coast.

IN THE MANUFACTURE OF TYPE,

The various operations, from first to last, are of the most delicate and intricate nature. Even the mixing of the metal, or producing the alloy known as "type metal," is a most difficult process, the slightest variations causing important modifications, which, more or less favorably or unfavorably affect the character and durability of the type. Each foundry, generally, has a particular mixture of its own, the proportions of which are kept a secret. The mold is a most complex instrument, and finished in the most delicate and accurate manner, the use of which is to form the "body" of the type. The matrix is formed of a small copper bar, one and a half inches long, by one-third square, having the letter sunk upon one of its sides, near the end, by a punch. The most difficult part of the entire work is the cutting of this punch, which makes the letter or character on the soft material of the matrix. It is said that there are but four really expert punch makers in the entire Union. There are probably but few, even among practical printers, who are aware that it requires not less than 367 separate matrices, with an equal number of punches, to produce a full set of types of any one kind used in a book or newspaper. One mold, however, answers for a full set of matrices. The letters, after being cast, go through five different sets of hands, in the various finishing processes. After coming from the mold they go first to

the "breakers," who remove, by breaking it off, the little stem or "jet" attached; they then pass through hands which remove any little inequalities on the two flat sides, which is done by rubbing upon a stone; from thence they go to another table, where they are set upon long "sticks," preparatory to the final finishing operations by the "finisher;" thence to the boys who break them up into short lines, to place them in pages, in which form they are done up in wrappers for the market. In this connection it may not be uninteresting to our readers to peruse a short

HISTORY OF MACHINE TYPE-CASTING.

It was not until about the year 1820 that any special effort was made to produce a machine which should facilitate the casting of type. In the year 1825, Mr. Elihu White, a type-founder of New York, succeeded in producing the first machinery, which even then indifferently accomplished the work. This machinery, however, does not seem to have been very successful, for we do not hear that it was employed by any other party than Mr. White, and to but a limited extent even by him. About the year 1838, a nephew of Mr. Bruce, the celebrated New York type-founder, recently deceased, succeeded in producing a type-casting machine, which effectually overcame the hitherto insurmountable difficulty previously encountered in casting type by machinery. This difficulty arose from the impossibility of expelling the air from the mold when the metal enters it, which is effectually done in hand-casting by the operator giving the mold a sudden and adroit jerk upward, with the left hand, the instant it has been filled with molten metal by the right hand. When the air is not perfectly expelled from the mold, it passes into the body of the type, forming little cavities, which make the type weak, and liable to sink under the force of the impression. The quick eye of Mr. Bruce at once comprehended the value of this improvement, and he purchased the patent in 1840, and immediately introduced the machines, with some modifications, into his foundry.

The success of Mr. Bruce soon secured the general introduction of the machine into other foundries, both in this country and Europe; and the casting of type by machinery has now become almost universal. Thus America has given to the world the only effective machinery for casting type, as well as the most efficient printing press. Both machines originated in the city of New York.

The type-casting machines in use at the Messrs. Faulkner's foundry, are substantially the same as those first introduced by Mr. Bruce. The patent right for the same is now vested in James Conner & Sons, type founders of New York.

DESCRIPTION OF THE MACHINE.

The front part of the machine consists of an ingeniously modified hand-mold. The rear comprises a small furnace, over which is placed a pot of molten metal. The whole is so arranged, that when motion is given to the machine, by turning a crank and fly-wheel at its side, the mold is made to approach a small nipple attached to the melting pot. When contact is effected, a cam motion opens a valve, so as to form a connection between the molten metal and the interior of the mold; at the same instant a plunger is driven downward, so as to force the metal into the mold, under great pressure, by which all the air is expelled therefrom, and the metal forced into the matrix so

as to form a perfect cast of great sharpness and accuracy, which "sets" almost instantaneously. The metal is now shut off, and the mold disconnected from the nipple, and so opened by ingeniously contrived devices as to allow the type to drop out by means of its gravity, and fall through a spout into a receptacle placed to receive it. The movements are exceedingly simple, and are all effected by merely turning a crank. Each turn of the crank produces a type, and the speed of the machine is limited only by the time required for the cooling of the metal. This is at the rate of six types per minute for the largest size job type cast by machinery, down to 150 per minute for the smallest news or book type. By the use of one of these machines, one man will do as much work in casting small type as six by the hand machines. The old hand-mold is now seldom used, except for casting large sized job type. The largest machine cast type is 7-line pica. In some of the most extensive Eastern foundries these machines are run by steam-power.

It may be proper in this connection to state that the machinery, molds, matrices, etc., for this establishment, have all been prepared at the foundry of Conner & Sons, New York, and under the immediate supervision of Mr. Andrew Foreman, who came out with them, and who will continue to act as foreman for Messrs. Faulkner & Son. Mr. Foreman is one of the most skilled mechanics in his line in the country, having learned his business in Scotland, and having acted for several years previous to his engagement with the Messrs. Faulkner, as head machinist at Bruce's foundry, New York.

THE FIRST FONT OF TYPE

To be issued from this Pioneer Foundry on the Pacific Coast, has been engaged for the MINING AND SCIENTIFIC PRESS, in which this paper will appear on the first of January next.

STEREOTYPING AND ELECTROTYPING.

In order to render their establishment complete, the Messrs. Faulkner have connected with their type foundry business the necessary machinery and appliances for stereotyping and electrotyping, and for making brass rule for printers' use. Workmen are now engaged in putting this machinery in order, which we shall describe, at length, after having seen it fully in operation.

PERSONAL.

In closing this notice, we cannot refrain from a short personal reference to the past history of the connection of these gentlemen with the printing and publishing interest of the Pacific coast. The Messrs. Faulkner arrived in California with the first tide of emigration in 1849, and brought with them a complete new and job printing office, with which they started the weekly *Pacific News*. This paper was continued some two years, paying large dividends to its proprietors; but finally encumbered and ceased to exist, only after it had been thrice burned out, in the terrible conflagrations which visited this city in the summers of 1850-51. In the meantime, however, Mr. Faulkner the elder, had returned to the East, where, from sickness and other causes he remained several years; but finally returned again in 1858, and established himself with his son as agent for the sale of Conner & Sons type and printing material. They have continued successfully in this branch of business, enlarging their facilities with the growing wants of this community, until they have finally accomplished their long cherished desire of establishing the Pioneer Type Foundry on the Pacific coast. They will hereafter manufacture at their foundry all the more ordinary kinds of type in use, relying upon their Eastern correspondents for only such things as enter but sparsely into printers' use. A business acquaintance with these gentlemen of some ten years standing, enables us to speak from experience, when we assure our friends of the fraternity that no more prompt or accommodating firm can be found in this city, in their line of business.

Communications.

In this DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Letter from Doctor Jackson—The Colorado Meteor.

EDITORS PRESS:—I observe in the last number of your paper, that you have published a notice of the Colorado meteoric iron, discovered on Bear River, Colorado, by Messrs. Wilson and Morrison.

This meteorite has recently been analyzed by me, and you may perhaps feel interested in the results, which I now communicate for your paper. The piece sent me weighed four ounces. It had on one side a crust of sulphide of iron resulting from the heating of the iron in a forge in order to cut off the piece sent me, the bisulphide having lost one equivalent of sulphur by heat. This crust was from 1-10th to 1/16th of an inch in thickness. The metallic mass of the specimen was smooth and polished, then acted upon by dilute nitric acid, shows very strongly the Widmannstättian figures, in small (nearly equilateral) triangles, with the lines well raised and sharply defined. The specific gravity of the metal taken on a clear cut and polished piece was 7.692. On chemical analysis, the following ingredients were separated:

Metallic Iron.....	90.850 per cent.
Metallic Nickel.....	7.867 "
Metallic Cobalt.....	0.010 "
Metallic Tin.....	0.020 "
Insoluble Matter, consisting of Schreibersite, a compound of phosphorus iron nickel and a trace of chrome.....	0.950 "
Total.....	99.497 per cent.

From this analysis it will be seen that this iron is truly meteoric. I learn that Prof. C. U. Shepard, of Amherst College, has purchased the large mass, which is said to be nearly two feet in diameter.

I am much interested in the study of meteorites, and will gladly analyze any specimens that may be sent to me from the Pacific coast.

We are now expecting the great meteoric shower which has been predicted by Professor Newton of Yale College. If the shower equals that which took place in 1833, it will be well worth the trouble of spending part of the night in the open air to see it. The city of Boston has ordered the fire alarm and the watchmen's rattles to signalize the event, the moment the grand celestial fire-works begin to be played off.

Since Prof. Newton cannot "postpone" the exhibition "on account of the weather," we earnestly hope the "unmannerly clouds" will keep out of the way, and give those of us who may not be here thirty-three years hence to see the next predicted shower, a chance to see it now.

With many thanks for your valuable paper,
Respectfully yours,
CHAS. T. JACKSON.

P. S.—The above analysis has been read at the Boston Society of Natural History, at the last Wednesday's meeting, November 7th, and a copy has been sent to the *American Journal of Science*, and will probably appear in the January number of that journal. C. T. J.

PRESERVATION OF LEMONS.—Lemons may be preserved by the very simple process of varnishing them with a solution of shellac dissolved in spirit of wine. Fresh lemon juice is thus attainable at all seasons of the year; and, if the peel be required for flavoring, the skin of shellac may be easily removed by simply kneading the elastic lemon in the hands.—*Pharmaceutical Journal*.

Lemons thus prepared cannot be relied on for keeping. The shellac is too brittle a substance for such a purpose. It is too liable to crack, and thus form orifices through which the oxygen may reach the lemon and cause its speedy decay. If the lemon is dipped into melted paraffine, and thus thoroughly coated, by one or two immersions as a candle is dipped, it may be preserved for a considerable length of time. Fresh meat may thus be preserved; and when wanted for use, the paraffine may be removed by dipping the substance so preserved in warm water.

THE WOONSOIE MINE, near Georgetown, the marvel of the day, has just ordered a second one of Cushing & Co's 6-inch Excelsior mining pumps, with all the necessary appliances.

[Written for the Mining and Scientific Press.]

Sodium Amalgam—Letter from Mr. Wurtz.

EDITORS PRESS:—I note in your issue of October 16th, some exceptions taken by Mr. G. Kustel to portions of my communication to the American Association at Buffalo. On referring back to your previous numbers, I find that the substantial part of my Buffalo paper was not before Mr. K.; the article copied by you, consisting of but a few of the concluding paragraphs, the "tag end" (so to speak) of my paper—all the substantial part having been most perversely and unaccountably omitted by the *New York Tribune*, the journal whence you took it. I am therefore constrained, by the attitude under which the matter presents itself to your readers, since Mr. Kustel's last letter, to ask of you the great favor of space, not only for a few words in rejoinder to Mr. Kustel, but also for a more complete abstract of the Buffalo paper itself, which I therefore forward in the form in which it has appeared in some of our cis-continental journals. I enclose, also, a copy of a letter from the chemist of the Gould & Curry company, which recounts some of their earlier results of working tests. I may add that many results have been obtained, which we are not yet at liberty to give to the public; others are not yet sufficiently matured, and there are still others of which we have as yet only general, though mostly highly satisfactory reports, and await the details before publishing.

To return to Mr. Kustel, however; it appears that although he has before admitted, and now again repents, that the use of sodium amalgam is beneficial in gold amalgamation (which can only be understood as a concession of all I claim—namely, that sodium exalts the adhesion between quicksilver and the precious metals, and prevents the flouing of amalgams of the latter), he still strangely insists that it can act only by decomposing silver ores chemically, according to its long known and familiar power of removing most of the metalloids from their argentic compounds. I must reiterate, what I supposed I had clearly enough expressed in my specifications published months since, that I do not contemplate interfering with the reducing agents (iron, etc.) now in use; but that my discovery consists in greatly accelerating and intensifying their action by adding a minute quantity of sodium.

I recommend to Mr. K., and to other practical metallurgists (all, of course, familiar with the tardy and tedious action of iron on moist chloride of silver), to bray together, in a mortar, some iron filings, quicksilver and precipitated chloride of silver, adding, meanwhile, a small quantity of sodium amalgam; the sodium in which, however, may be but a small fraction of that equivalent to the chloride. *The almost instantaneous result will be a mass of pasty or nearly solid silver amalgam.* If such phenomena as this are to be ignored, or pooh-poohed, as signifying nothing, and having no bearing on the working of silver ores, I have but to submit respectfully that this seems like carrying an assumption of practicality (?) and an affectation of contempt for science considerably beyond the limits of common sense.

The above experiment will serve, for the present, to exemplify and illustrate the mode in which the exalted adhesion and more intimate contact produced by sodium enhances and quickens voltaic and chemical reactions between metallic substances. This is the first and greatest of the discoveries upon which my new methods are based; and the second depends simply upon the correlated principle that metallic cohesion as well as adhesion—that is, attraction between the homogeneous as well as heterogeneous surfaces—is, at the same time, exalted by sodium; whence it arises that floured and pasty precious amalgams, which incorporate together with difficulty, and usually only on application of mechanical force, coalesce spontaneously and with avidity when quicksilver, containing a minute quantity of sodium, (or, as I have been somewhat ridiculed by Mr. K. for expressing it in the "magnetic" condition,) has been added thereto. It is on this ground that I have recommended the use of sodium in separating and collecting diffused silver amalgam from a slime or pulp.

Mr. Kustel's brief comment on this, that "this may be so," seems hard to reconcile with

his belief expressed in another paragraph, that sodium must "cause a greater loss of quicksilver by rendering the latter liable to be ground to flour." I fully agree with him that "silver amalgam is not silver ore," though unable to see clearly the bearing of the observation.

Mr. Kustel also still adheres to his preconceived idea that iron pans will have to be eschewed in all operations with sodium amalgam; his reason, as I understand it, being the "local" voltaic action which may set in, upon mutual contact of iron, sodium amalgam and water, which, theoretically, should soon remove all the sodium. I have, nevertheless, before pointed out, as the result of my own experiments, that when iron becomes enfilmed by the amalgam, this "local action," as in the case of the zinc of an ordinary voltaic couple, is greatly retarded. With some kinds of iron it becomes almost nil. I wish now, however, to show conclusively that this objection is a "bngbear." A moment's thought will show any one skilled in the art that the mullers of the pan should keep the quicksilver so diffused in globules throughout the slime that no contact of consequence with the iron can occur. When such diffusion does not take place, it merely argues imperfect manipulation. The most that can be made of this objection of Mr. K's, is the suggestion that the mullers be of stone, or some material other than iron. My results, though, are to the effect that the amount of sodium necessary to produce a very marked benefit, falls much below that which is requisite to engender the voltaic action upon surfaces of cast iron, which Mr. K. deems so very objectionable.

I have to complain of Mr. Kustel's apparent insinuation, that I have fallen into a common method of "putting the cart before the horse," by trying to force the results of experiment into accordance with a preconceived "idea." I claim that the ideas I have promulgated are solidly founded upon experiments, and still maintain that Mr. K's assumptions, that sodium may only be used on silver ores as a decomposing agent, and that, therefore, it is necessary also to go to the extreme of decomposing the ores of the baser metals—thus contaminating and flouing the quicksilver—and his other assumption, that the iron walls of a pan necessarily neutralize and destroy the efficiency of sodium under all circumstances, and his experiments based thereon, as reported, have no real applicability to the case, as I said in my Buffalo paper. I believe that apart from the "self-confidence" of which Mr. K. (if I apprehend him aright), accuse me, I can appeal to the facts I have set before your readers to sustain these claims. I also claim that Mr. Kustel's opinion, that sodium is "too expensive" to be applicable as I propose, is untenable in the extreme. As a *reductio ad absurdum*, let us suppose that it were necessary, as he believes, in the translation to amalgam of the silver in an ore (the chloride, for instance), to use an equivalent quantity of sodium—then, as one pound avoirdupois of sodium is equivalent to 4.7 pounds of silver, or about seventy-five ounces, worth \$1.29 per ounce, \$96.75, it is necessary to show cause why the cost of sodium must approach this latter sum (in coin) per pound to prove its use, even for "decomposing" chloride of silver, unprofitable, and to give any currency to this "idea" of Mr. K.

I fear it may be necessary for me to add here, distinctly, that these calculations are intended only as illustrative, else I might be accused of justifying the direct use of sodium as a reducing agent in silver metallurgy, the time for which has not yet come. I am, Mr. Editor, very respectfully your most obedient,
HENRY WURTZ.

New York, 57 Broadway, Nov. 1, '66.

REMARKS.—By careful reference to the files of this paper, our correspondent must observe that we have published everything of material interest with regard to sodium amalgam, which has appeared in either the English or American papers, besides much that has been written upon that subject, especially for the MINING AND SCIENTIFIC PRESS; a considerable portion of which last Mr. Wurtz appears to have thought of sufficient importance to incorporate, with due credit, in his paper on "The Utilization of Sodium, in Gold and Silver Amalgamation," which he read before the "American Association for the advancement of Science," at their late meeting in Buffalo. Our report of the proceedings of that association, was collected from the columns of the *Buffalo Express*, and not from the *New York Tribune*, as supposed by Mr. W.; although the former named sheet, like the latter, most unaccountably omitted that which was perhaps the most essential part of the entire paper, or rather dismissed it with a brief reference, which, such as it was, we gave in full. The omission referred to was that portion of his remarks wherein he replied to the objections urged by

Mr. G. Kustel, of this city, through the columns of the MINING AND SCIENTIFIC PRESS, against the use of sodium for amalgamating purposes under certain conditions. We now publish the remarks of Mr. Wurtz on that point, in full, as furnished by himself. After making some lengthy allusions to the favorable notices which had been made by various journals and persons, Mr. Wurtz said:

American metallurgists, however, are not altogether unanimous in admitting all the advantages I claim for sodium. Kustel, known as the author of a work on gold and silver metallurgy, seems bitterly opposed to its use upon silver ores. In his experiments, however, Kustel has fallen into the error that the use of sodium, to quote from him, "in the decomposition of silver ores" is based upon "its ardent desire for combination with oxygen, sulphur, etc." It was never proposed by me to use sodium for the decomposition of silver or any other ores. The addition of sodium to the quicksilver used in amalgamating silver ores, in sufficient proportion to enhance the adhesion of the quicksilver to the metallic silver which has already been separated from the sulphides, etc., by other agencies, will be found highly beneficial; as well as the addition of magnetic quicksilver to a pulp or slime which contains a floured or pasty silver-amalgam diffused throughout its mass, for the purpose of collecting and incorporating the silver amalgam into one mass.

Should enough sodium be present to produce the decomposing effect on the silver sulphides by sheer force of chemical affinity, which Kustel regards as the object of the invention, the real object would inevitably be defeated, as the quicksilver would then become loaded with the baser metals and other impurities, which would destroy its amalgamating power altogether. This is evidently what has actually taken place in some experiments on silver ores which Kustel reports in the *San Francisco Mining Press* of March 31, 1866, in which he obtained with sodium but one-third as much silver with a given ore as without it.

Kustel's results, therefore, having been founded upon an incorrect idea of the mode of employment of the sodium, have no applicability either *pro* or *con*. Kustel's statement that contact with iron "highly increases the rapidity of the decomposition of water by sodium amalgam" is at variance with my own observations, which have generally tended to precisely the opposite conclusion; and his inference therefrom, that iron pans therefore cannot be used with sodium, is shown to be fallacious by numerous practical results on record.

Another fanciful objection of Kustel is "amalgamation with the iron of the stamps or shoes." I have shown that no "amalgamation" of iron takes place, but a merely transient enfilming, which is extremely beneficial instead of prejudicial. Kustel admits the prevention of flouing of the quicksilver, and concedes also "that one or two pounds of sodium in a ton of quicksilver will undoubtedly show a good result if gold quartz is treated with it properly."

The negative results of one experimenter, especially when based upon an incorrect understanding, weigh but little against the concurrent positive results of many others.

Mr. Wurtz then goes on to show that others, versed in the amalgamation of silver ores, do not concur in opinion with Mr. Kustel, and quotes from a communication of Mr. R. S. Kimball, of this city, which appeared originally in this paper on the 14th of April, 1866. He also quotes from Prof. Silliman; from Mr. Thos. Belt, in the *London Mining Journal*; T. A. Readwin, of North Wales, England, in a letter to Mr. Moschimer, of this city, and others; all of which, more or less *in extenso* has appeared in previous numbers of the MINING AND SCIENTIFIC PRESS, and which it would be hardly worth our while to re-produce in the present connection. Mr. Kustel will probably see, for the first time, in the issue of to-day, the full remarks of Mr. Wurtz, to the garbled report of which he took objections in his communication to this paper, which appeared in our issue of Oct. 6th. It is possible, that on reading the same as now published, he may see fit to modify the opinions he then expressed.

The new steamer *Oregonian*, built for the route between this city and Portland, Oregon, arrived here on the second instant from New York. She made the trip in sixty-eight days—the quickest time ever made. She is a first-class vessel in all respects. Her cost, including the engines, was about six hundred thousand dollars.

Mechanical.

The Industrial Applications of Steam.

It is wonderful to reflect upon the vast and varied applications to which steam has been referred during the past century. Although but a comparatively short time has passed since its almost only use was for pumping water from deep mines, we now find it nearly omnipresent; it is below and above ground; upon the sea as well as upon land. It is constantly relieving man from nearly all the drudgeries of labor, enabling him, by aid of its great powers, and universal applicability, to undertake work which, without its aid, could never have entered into his conception; at the same time it is as subservient as a little child, and fulfills its duties with a degree of reliability, promptitude and precision, which even the most skillful human hand could never accomplish. It is far less expensive and much more subject to control than human labor. It relieves employers from a state of dependence on the caprices or weaknesses always incident to such aid, when not controlled by education, and furnishes man with a power which knows no limit save that dependent upon the strength of the most enduring of material substances. Its application we have said is even now almost universal; yet, we see a constantly growing desire to still further enlarge the wide range of its use.

The steam engine is a man of all work; it is now indispensable assistant to the builder, contractor, manufacturer, merchant, ship-owner, farmer, miner, and even the barbers and farriers have recently pressed it into their peculiar service. To all it is a labor, time and muscle-saving agent. It fights our battles; it defends our harbors; it brings to the light of day the hidden minerals of the earth, the most of which, without its aid, would be lost to the service of man. It drives our merchant and passenger ships from port to port over wide oceans, and calivens and utilizes the interminable rivers which find their devious ways from the far interior of every country on the globe. It is fast covering every civilized country with a net-work of roads, along which the iron horse, set in motion by its tireless power, rushes with an almost irresistible force, and a speed which surpasses the eagle in his flight.

The slow, monotonous "yo-heave-ho!" which a few years since greeted the merchant whenever he passed along the wharves, and which kept his ships for weeks at their moorings, has now changed to the quick rattle of the donkey engine, by the aid of which a heavily-laden ship is relieved of her cargo and made ready for a return voyage almost as soon as the captain's landress has cleansed his accumulated stock of soiled linen. The farmer, too, comes in for his share of the benefits derivable from this universal labor-saving agent; and by steam he now rides over the fields at his ease, and the grain, as if in obedience to his presence, bows before him, and is gathered into stacks by arms that tire not, neither do they grow weak or weary beneath the scorching sun. The stacks of corn and grain are no longer hauled on slow-moving carts to the barn to await the winter's leisure for the operation of the threshing floor; but the steam engine, in one of its protean forms, some fine day, comes out into the field and rushes through the hard labor of weeks almost within so many hours. The farmer is justly proud of such valuable help, which consumes no food beyond a few sticks of wood, and that only while at work. Thus, on every hand, we see the steam engine being made subservient to the good of almost every conceivable avocation in which man can engage. What would become of the civilization and industrial interests of this nineteenth century were we to be deprived of the aid of steam without a compensating equivalent? It is the wonder of the age—the greatest instrument of social, intellectual and physical progress which the world has yet beheld.

PAPIER-MACHE is now used for molds for sugar refining, also in making casts for stereotyping.

An Aquatic Novelty.

Charles W. Anderson, of Memphis, Tenn., proposes a new form of water locomotion. His plan is for a cylindrical vessel, with an endless railroad track, like a set of hoops attached to the inner circumference, to roll over the water, instead of being propelled through it. His idea is this:

He proposes to build a vessel like a huge barrel, of about thirty feet diameter and about the same length. A railway track is built inside of the circumference of the barrel and of about sixteen feet diameter, with two tracks parallel and each side of it about four feet larger. His plan of operating it is to run a locomotive upon the middle track and loaded cars upon the two side tracks, and the weight of the loaded cars running up the circles will turn the cylinder, or rather it will recede from them, and, as it does so, he supposes it will travel over the water by means of V-shaped paddles that are fastened on the outside circumference of the vessel and running the whole length of it. He claims to be the original discoverer of this principle of locomotion, and asks capitalists who are interested in such schemes to share with him the success or failure of the invention.

The *American Artisan* comes in and dissipates his idea of novelty thus:

The same idea was broached about forty years ago and has been revived several times since. In 1853, patents were taken out by an American inventor in this country and in Europe for essentially the same thing and propelled in the same manner.

The same paper elucidates the impracticability of the idea as follows:

We fear that there are difficulties to surmount that Mr. Anderson has not yet found by experiment. The resistance of the water against the barrel-like vessel is much greater than he anticipates. In a stern or sailing vessel the water is displaced by the bow moving in like a wedge and cleaving a way; but in this new mode of navigation the vessel has to be rolled or lifted up, like rolling the barrel up hill, and it must either continually do this with a slow progress or else forcibly displace the mass of water before by some other mechanism than the weight of the cars that be proposes to be the motive power. Let him take a barrel, weight it in the manner in which he proposes to load his new vessel, attach strips of board as he proposes to attach the paddles of the *bona-fide* boat, put the barrel into the nearest creek, and, then, prepared *sans culottes*, roll it around for awhile, and if it proves any great thing of a steamboat we will "own up beat."

CALCULATING THE HORSE-POWER OF ENGINES.—In the English accounts of condensing steam engines—more especially those for marine purposes—and their power, we generally see statements of the nominal horse-power and actual horse-power; the actual power being always several times greater than the nominal. The actual horse-power is calculated from the record of the indicator; but the nominal is estimated by an arbitrary rule, which is explained as follows in a letter to *Engineering*, from John Bourne, the well-known engineer and author:

In Boulton and Watt's original rule for determining the nominal power of an engine, the pressure of the steam which was considered to be effective on the piston was 6.8 lbs. in the 4-horse power engine, and increased up to 6.94 lbs. in the 100-horse power engine. The velocities of piston for different lengths of stroke were taken as follows:

Length of stroke in ft.	2 1/2	3	3 1/2	4	5	6	7	8
Speed of piston in feet per minute	160	170	180	190	200	210	225	245

The pressure speed per minute multiplied by the assumed pressure, and divided by 33,000, gave the nominal power.

As it was difficult to remember these speeds and pressures, I gave a new rule in 1844, which assumed a uniform pressure of seven pounds per square inch, and which further assumed that the speeds varied nearly as the cube roots of the length of the stroke, which I found that they did very nearly. This rule, which is now very generally adopted, is as follows: Multiply the square of the diameter of the cylinder in inches by the cube root of the length of the stroke in feet, and divide the product by 47, which will give the nominal power.

An Albany man has invented a portable cotton gin of a new construction, which is claimed as being in some respects superior to the old one.

Scientific Miscellany.

Wilde's Late Electro-Magnetic Discovery.

In our issue of November 3d, we gave some account of a remarkable discovery, recently made by H. Wilde, Esq., of England, which is thought to exceed in importance all discoveries in electricity which have been made for many years. The details of the arrangement were not given in the account from which we made that notice; but we have since seen some particulars in the London *Quarterly Journal of Science*, which may aid the reader in arriving at a tolerably fair conception of the *modus operandi* employed by Mr. Wilde in obtaining the new and wonderful results which he reports.

The principle is not difficult to understand. An armature, wound round with an insulated wire, is made to revolve rapidly in front of the poles of a large permanent magnet. The currents of electricity thus induced in the insulated wire, are carried around a large electro-magnet, which is thereby excited to a high degree. In front of this electro-magnet a second covered armature is rotated, and the electric current thus generated is carried around a third electro-magnet. It is from a rotating armature in front of this third magnet that the electric current, ultimately used for heating or lighting effects, is produced. At each passage round the electro-magnets, and induction in the rotating armatures, the electric current becomes magnified to an extraordinary degree, until ultimately it is sufficiently powerful to melt iron rods fifteen inches long and a quarter of an inch in diameter. The illuminating power of the current thus obtained is of the most splendid description; such that, when placed upon the top of a building it casts shadows from the flames of street lamps a quarter of a mile distant. It is stated that the quantities of electricity thus obtained by far exceeded that attainable by any other means hitherto employed. In arriving at his grand result, Mr. Wilde first discovered the fact that a large amount of magnetism can be developed in an electro-magnet of much smaller power. Reasoning from this fact, and bearing in mind the additional fact that an electro-magnet, when excited by means of a voltaic battery, possesses all the properties of a permanent magnet, and that a large electro-magnet, if excited by means of a small electro-magnetic machine, could be made, by proper apparatus, to evolve a proportionate amount of dynamic electricity, he proceeded to prepare such an apparatus, substantially as described above. The results have more than realized his most sanguine expectations, and have excited a deep interest among English electricians.

In operating the machine, a small amount of power, only, seems to be required—not more, perhaps, than would be required to raise a blast sufficient to produce the same amount of heat in an ordinary blast furnace. It is confidently expected that ere long electric lights of the most intense description may be thus obtained; and it is by no means an improbable supposition that the heat so generated may be economically applied to practical purposes, or converted into power by means of the electro-magnetic engine, and employed in the place of coal to drive the steam marine of the world.

THE EFFECTS OF FROST ON THE BRANCHES OF TREES.—Professor Caspary, of Königsberg, Prussia, communicated to the International Botanical Congress, lately in session at South Kensington, England, the fact that the frosts of winter cause certain changes in the direction of the branches of woody plants; which movement is in direct proportion to the intensity of the cold. This change is not uniform in all woody growth, for it appears that the frost causes the branches of some trees to droop, and those of others to rise—the extent of the downward or upward movement depending upon the mildness or severity of the weather. In some instances the branches of the same tree exhibit both phenomena, rising when the frost is mild, and drooping when it becomes severe. The philosophy of the phenomena has never been explained.

Celestial Photography—The Moon.

Celestial photography gives good promise of soon revealing some important information in regard to the physical constitution of some of the heavenly bodies, particularly those of the sun and moon. It is already furnishing pretty strong evidence of the probable existence of the remains of an atmosphere in the moon, of great density, but of very small extent or elevation. Some of the phenomena presented in obtaining photographic representations of different portions of the moon's surface, can scarcely be accounted for on any other hypothesis—for instance, the difference observable between obtaining photographic representations of high and low portions of the moon's surface; for it must be remembered that a much greater difference exists between mountain and plain on the moon, than between those inequalities on the earth's surface. Elevations have been observed on the moon which are thought to be twelve or fifteen miles high, or above the general average of the plains. Admitting the existence of a dense atmosphere, small in extent, the photographic representation of a lone lunar plain, covered with a dense atmosphere, might well be supposed to exhibit a marked contrast with that of a mountain twelve or fifteen miles high, with scarcely the vestige of an atmosphere. If such an atmosphere existed, some of the plains of the moon may even yet be covered with vegetation, such as requires but little moisture. The large photographic pictures of the moon, recently obtained, are now being studied with much care and interest. They give a wonderfully minute representation of the lunar surface. Her coasts and cliffs, against which an ocean of water must at one time have benten, are clearly defined. Here is seen an unmistakable volcanic crater of eruption; there a vast swelling, which could only have been the result of some mighty power of upheaval, which was exhausted before it burst, and thus left, as it were, an uplifted, unbroken, opaque bubble! Depths are seen so profound that the light of the sun never illumines their lowest interior. It is thought that even glacial remains are traceable in the mysterious streaks of light which are seen to radiate from some of the higher lunar mountains. If such a supposition could be verified, the fact would be pretty clearly established that the lovely queen of night was once, if not now, clothed in a livery of green. From what has been done, we can but indulge the hope that important developments in this direction are yet in store; such as will be of no common interest to the inquiring mind. With regard to the moon, however, we can scarcely expect to reach any other conclusion than that now generally entertained by astronomers, that it is but a world in its decadence; that in the cooling of its mass, the water, which formerly existed upon it has been absorbed, and that the atmosphere, also, is fast finding its way into the crevices of contraction—a visible picture of what is to be the fate of our own mundane sphere—a freezing, rather than a burning up!

COLORATION OF FEATHERS.—The question of the change and variety in the plumage of birds, was recently discussed at considerable length, by M. Victor Fatio, of Paris. The question is asked: Is a new coloration always the peculiarity of a new feather, or may the coloration sometimes undergo alteration in the same tissues? It is claimed to be a matter beyond dispute, that when a feather has once grown, its color cannot be effected by nutrition, inasmuch as all communication between it and the blood vessels is at an end—the pulp having dried up. M. Fatio therefore attributes the alteration in the color of completely grown feathers to the humidity of the atmosphere, temperature, light, movements, and the fatty matter of the bird. The modifications produced by these agents, are the various developments of certain parts, the solution and diffusion of the internal pigment and the rupture of the external parts. It may not be out of the way to state, in this connection, that feathers can be as readily and permanently dyed with the aniline colors, as wool or silk. The colors should be dissolved in alcohol, diluted with water, quite warm, but not hot. Dye thoroughly, wash and dry. The process is simple, but effective.

WEEKLY STOCK CIRCULAR

Of Associated Brokers of the S. F. Stock and Exchange Board

SAN FRANCISCO, SATURDAY MORNING,
December 15, 1866.

CITY STOCKS.

San Francisco Gas Co. sold early in the week at \$64.75@64.50 per share. California Steam Navigation Co. at 66½@65½ per share. This company pays its usual monthly dividend to-day. The Bank of California disburses this day a dividend of 1½ cent. per month on its capital stock of \$5,000,000. Fireman's Fund Insurance Co. declared a dividend of 4½ cent. for the quarter ending with the present month, payable on the 3d of January. North Beach and Mission Railroad sold at \$46 per share. Spring Valley Water Co. paid its usual monthly dividend on the 10th instant. The Sacramento Gas Co., on the 1st instant, paid a dividend of ½ cent. per month on its capital stock. This, we understand, is the seventieth monthly disbursement from its surplus to the stockholders. We quote it at 75½ cent. asked.

Small sales of Legal Tender Notes transpired at 71½@72½, and at the close they are selling at 72½. A small amount of June 7-30 Bonds brought 78½.

MINING SHARE MARKET.

The Share Market has displayed rather less activity this week, together with a slight decline in most leading stocks. This has not been occasioned by any unfavorable reports, so far as we have been informed; but perhaps may be attributed to the realizing process going on for some time past by a number of large holders, who in selling out at the present prices obtain handsome profits upon investments made a few weeks since. Some of these parties have been "hears" this week, hoping to enter the market again as purchasers at low prices. We are pleased to state that six Comstock claims have declared dividends for the month of November. The Empire Co. increased its dividend from \$6 to \$15 per share, the Yellow Jacket paid \$75 per foot, in lieu of \$50 the previous month, and the Hale & Norcross will add an extra dividend of \$200 per foot out of the surplus now in the treasury of the company in addition to their regular dividend of \$100 per foot, payable this day. Another gratifying feature in this connection is, that most of these companies carry forward very considerable surplus balances in addition to the several amounts disbursed to stockholders.

We refer our readers to the annexed comparative statement of dividends declared:

COMPANY.	In November.	In December.
Hale & Norcross.....	\$100	\$40,000
Savage.....	75	60,000
Yellow Jacket.....	50	60,000
Crown Point.....	50	30,000
Empire Mill.....	6 p	7,200
Imperial.....	8 p	32,000
Totals.....	\$229,200	\$290,000

The following table shows the Bullion product of the leading Comstock claims during the month of November as compared with the yield in October:

COMPANY.	October.	November.
Yellow Jacket.....	\$180,288 67	\$202,080 27
Savage.....	210,000 00	241,000 00
Hale & Norcross.....	152,363 74	167,034 89
Gould & Curry.....	114,321 67	124,633 61
Crown Point.....	110,000 00	100,000 00
Imperial.....	95,380 00	82,640 48
Chollar-Potosi.....	60,000 00	58,962 15
Confidence.....	41,563 72	27,975 68
Empire Mill.....	42,000 00	45,000 00
Ophir.....	22,586 24	.....
Totals.....	\$1,031,054 04	\$1,039,387 09

HALE & NORCROSS.—Not in the market during the week; \$2,500 per foot was bid. This company have obtained a depth of 22 feet in the west vein, and it is said the ore found at the bottom is very good. The actual returns of bullion in November amounted to \$167,034.89. This does not cover the 65½ cent. assay value exacted from the mills, and is attributable to the wet condition in which the ore was delivered. After paying out \$120,000 in dividends—\$300 per foot—this company has a surplus of \$90,000 in the treasury.

SAVAGE.—This stock was not so much in demand this week as last, but the late advance was well sustained, opening at \$2,015, then selling at \$2,060, buyer 5, and at \$2,040@2,050, seller 30, and closing yesterday at \$2,075. The average value of 1,997 tons of ore extracted during the week ending Dec. 8th is \$38.31 per ton. The 7th station continues to look well, and is said to yield a fair amount of good ore. Winze No. 3 is now about 80 feet deep, and still in ore. The southwest drift, on the lower station of the south mine, passed through the west seam of the Hale & Norcross claim. At this point no ore was obtained,

and drifting is continued towards the Hale & Norcross ground, where it has been very productive. On Dec. 1st the estimated value of 4,832 tons of ore at the mine and mills was \$218,509.85, and, deducting all expenses of milling, etc., leaves a net balance over liabilities of \$150,973. The total yield of bullion in November amounted to \$231,000.

YELLOW JACKET—has been active, advancing from \$1,400, buyer 5, to \$1,410, receding to \$1,295@1,287.50, and closing at \$1,260. In working from the winze in the lower level it is said that recent developments disclose a vein from eight to ten feet wide, containing considerable first-class ore. The drift in the north mine is 155 feet east from the shaft, and is supposed to be not far from the vein. A surplus of about \$3,000 over liabilities will remain on hand after paying the dividend of \$75 per foot declared for this month and payable to-day. The stock of supplies at the mill and mine amounts to more than \$49,000, but on this there still remains due some \$10,000. At the Morgan mill about 1,700 tons of ore have been accumulated. From the report for the month of November we extract the following: Tons of ore mined, 8,813; reduced, 7,127; yield of bullion, \$202,090.26; average, \$28.35 to the ton. Men employed, 255.

CROWN POINT.—Few feet changed hands during the week, receding from \$1,200 to \$1,180, then to \$1,170, and at the close sold at \$1,200. During the week ending Dec. 7th, 990 tons of ore were taken from the mine. The vein on the 400-foot level is now opened 145 feet, and is said to show a fine body of ore, which, it is thought, will average \$40 to the ton. The east drift from the 400-foot station is now in 210 feet, and carries white quartz. Preparations are completed to commence to sink for the 500-foot level. A dividend of \$50 per foot was declared, payable this day. The yield of bullion during November was about \$100,000.

GOULD & CURRY—was dealt in to a larger extent than usual during the past week, improving from \$690 to \$730, then to \$775, receding to \$700 @650, and at the close selling at \$660. We learn of nothing new in this mine. In our next issue we expect to give a detailed statement of this company for the fiscal year ending November 30th.

CHOLLAR-POTOSI—advanced from \$236 to \$245, receded to \$235@237.50, and closed yesterday at \$224. The average yield of ore taken from the Blue Wing station is said to be about \$30 per ton, and it is thought that 100 tons of ore per day will soon be taken from this level. At 150 feet south from the shaft, on the fifth station Potosi, a winze 20 feet deep is said to show some good ore. The ore in the first station of the new shaft is now six feet wide, with every prospect of its widening as they drift north. In the second station, the clay has given out, and porphyry and small seams of quartz have been found. During the week ending Dec. 8th, 945½ tons of ore have been sent to custom mills; previous week, 726 tons.

OPHIR sold at \$240, buyer 30, then at \$235, declined to \$229, dropped to \$205@202.50, and closed at \$205. A fourteen-inch pump, extending from the ninth to the tenth gallery in this mine—a distance of 100 feet—will shortly be in operation.

EMPIRE MILL has met with considerable activity, improving from \$220 to \$200@195, and at the close sold at \$195. The yield of bullion for the month of November amounted to \$45,000, and a surplus of 3,000 tons of ore is now on hand at the mine.

IMPERIAL was sold at \$135, improved to \$145, declined to \$138@130, then sold at \$132.50, and closed yesterday at \$140. The receipts from the first clean-up amounted to upwards of \$18,000, and the surplus ore at the Rock Point mill, on Dec. 1st, aggregated 3,200 tons. The ore in the Alta and Holmes mine is improving, and both of the company's mills are in perfect order and running at full capacity.

CONFIDENCE opened at \$95, then sold at \$97.50, receded to \$85 and \$75, and at the close sold at \$85. The bullion returns for the month of November amounted to \$27,975.69, being \$13,588.03 less than the October yield. BELCHER advanced from \$140 to \$145, gradually receded to \$127.50, and at the close sold at \$118.

OVERMAN has not been as active the present week as for some time past, selling within a range of \$17.50@14. Assessment of \$10 per share levied on the 12th instant. BULLION sold at \$16@12; and SIERRA NEVADA, to a large extent, at \$4.75 @6.75, then sold at \$4@3, and closed at \$5.25. On the 11th instant, an assessment of \$4 per share was levied by the Trustees.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$830,900.25.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Monday, December 10.

96 shs Ophir at 235 per foot.
160 shs Sierra Nevada at 5 per share.
100 shs Sierra Nevada at 6 per share.
52 shs S. F. Gas Co at 64½ per cent.
2 shs S F Gas Co at 64½ per share.
4 shs Gould & Curry at 775 per foot.
4 shs Gould & Curry at 775 per foot, s 30.
4 shs Gould & Curry at 775 per foot, b 10.
4 shs Gould & Curry at 725 per foot.
2 shs Belcher at 140 per foot.
10 shs Belcher at 145 per foot.
3 shs Empire M. & M. Co. at 110 per sh, s 3
1 sh Empire M & M Co, 212 per sh b 10.
1 sh Empire M & M Co at 207½ per sh.
8 shs Crown Point at 1200@1180 p ft, b 5.
4 shs Crown Point at 1190 per foot.
4 shs Chollar-Potosi at 245 per foot e.
4 shs Chollar-Potosi at 240 per foot e.
10 shs Chollar-Potosi at 230 per foot b 30.
5 shs Imperial at 145 per share.
10 shs Confidence at 97½ per share.
2 shs Cal Steam Nav Co at 66 per et.
1 sh Yellow Jacket at 1430 per foot b 30.
8 shs Yellow Jacket at 1395@1380 per foot.
10 shs Overman at 17 per share.
5 shs Overman at 16½ per share
10 shs Overman at 17 per share.

AFTERNOON SESSION.
25 shs Sierra Nevada at 6 per share.
10 shs Confidence at 97 per share.
10 shs Confidence at 96 per share.
30 shs Ophir at 232½ per foot, b 30.
20 shs Ophir at 230 per foot.
10 shs Ophir at 229 per foot.
2 shs Belcher at 141 per foot.
7 shs Chollar-Potosi at 237 per foot.
10 shs Chollar-Potosi at 240 per foot.
3 shs Empire M & M Co. at 200 per sh.
16 shs Gould & Curry at 710@700 per foot.
8 shs Gould & Curry at 715 per foot, b 30.
1 sh Yellow Jacket at 1435 per foot s 10.
8 shs Yellow Jacket at 1340 per foot.
5 shs Imperial at 145 per share, b 30.
10 shs Imperial at 140 per share.
10 shs Imperial at 138 per share.
25 shs Overman at 17 per share.
1 sh Savage at 2050 per foot
\$4,500 U. S. 7-30 Bonds June issue at 78½c.
Amount of sales.....\$128,531 75

Tuesday, December 11.

10 shs Sierra Nevada at 4 per share.
10 shs Confidence at 95 per share, b 30.
5 shs Confidence at 96 per share, b 30.
5 shs Confidence at 91 per share.
35 shs Overman at 17½ per share.
10 shs Overman at 16½ per share, s 30.
12 shs Ophir at 220 per foot.
12 shs Ophir at 216 per foot.
8 shs Ophir at 215 per foot.
12 shs Ophir at 220 per foot, b 30.
10 shs Chollar-Potosi at 236 per foot.
5 shs Chollar-Potosi at 235 per foot s 30
7 shs Empire M & M Co. at 200 per share.
1 shs Empire M & M Co. at 195 per share.
5 shs Imperial at 135 per share.
19 shs Imperial at 130 per share.
8 shs Gould & Curry at 650 per foot.
4 sh Gould & Curry at 650 per foot s 30.
16 shs Belcher at 140@140½ per foot, b 30.
6 shs Belcher at 135 per foot.
30 shs Bullion at 17 per share, b 30.
1 sh Savage at 2050 per foot, b 5.
2 shs Savage at 2050 per foot, b 6.
1 sh Savage at 2030 per foot, s 30.
5 shs Yellow Jacket at 1330@1325 pr ft b 30.
4 shs Cal Nav Steam Nav Co at 65½ per et.

AFTERNOON SESSION.
24 shs Ophir at 205 per foot, s 10.
100 shs Ophir at 215 per foot.
164 shs Ophir at 205 per foot.
7 shs Belcher at 135 per foot.
1 sh Empire M & M Co. at 195 per share.
3 shs Yellow Jacket at 1325@1340 pr ft b 30.
3 shs Yellow Jacket at 1300 per foot s 30.
10 shs Yellow Jacket at 1300 per foot.
4 shs Yellow Jacket at 1310 per foot.
9 shs Chollar-Potosi at 235 per foot.
16 shs Gould & Curry at 650 per foot.
8 shs Gould & Curry at 650 per ft, s 30.
15 shs Bullion at 15 per share
3 shs Bullion at 14 per share, s 30.
4 shs Imperial at 131 per share, s 5.
10 shs Imperial at 131 per share.
4 shs Imperial at 132½ per share.
Amount of sales.....\$135,887 50

Wednesday, December 12.

96 shs Ophir at 206 per foot.
12 shs Ophir at 208 per foot.
48 shs Ophir at 205 per foot.
48 shs Ophir at 205 per foot.
24 shs Ophir at 207 per foot, s 10.
12 shs Ophir at 205 per foot s 15.
10 shs Sierra Nevada at 3 per share.
1 sh Belcher at 130 per foot.
1 sh Belcher at 127½ per foot.
3 shs Belcher at 127 per foot.
2 shs Belcher at 132½ per share.
8 shs Chollar-Potosi at 240 per foot, b 30.
8 shs Chollar-Potosi at 241 per ft b 30.
20 shs Chollar-Potosi at 237½ per foot.
40 shs Chollar-Potosi at 234 per foot.
9 shs Chollar-Potosi at 236 per foot.
1 sh Confidence at 87½ per share.
9 shs Confidence at 85 per share, s 30.
20 shs Imperial at 130 per share, s 10.
10 shs Imperial at 132½ per share.
2 shs Yellow Jacket at 1300 per foot s 3.
1 sh Yellow Jacket at 1300 per foot b 5.
4 shs Crown Point at 1170 per foot.
10 shs Overman at 16½ per foot.
2 shs Savage at 2040 per foot.
5 shs Empire Mill & M. Co. at 195 per sh.
5 shs Confidence at 85 per share s 30.
6 shs Ophir at 210 per foot b 30.
25 shs Chollar-Potosi at 236 per foot.
25 shs Chollar-Potosi at 233 per foot.
10 shs Crown Point at 240 per share b 30.
1 sh Yellow Jacket at 1330 per foot b 30.
1 sh Yellow Jacket at 1310 per foot, b 10.

25 shs Overman at 14 per foot.
30 shs Overman at 14½ per share.
5 shs Sierra Nevada at 3 per share.
10 shs Sierra Nevada at 3½ per share.
2 shs Savage at 2050 per foot.
2 shs Savage at 2050 per foot, s 30.
\$2,000 Legal Tender Notes at 72½c.
Amount of sales.....\$119,605 00

Thursday, December 13.

12 shs Ophir at 195 per sh, s 30.
24 shs Ophir at 125 per foot.
48 shs Ophir at 210 per foot, b 3.
12 shs Ophir at 210 per foot, b 5.
72 shs Ophir at 200 per foot.
42 shs Ophir at 197½ per foot, s 30.
36 shs Ophir at 202½ per foot, s 3.
24 shs Ophir at 205 per foot, b 3.
24 shs Ophir at 213 per foot, b 30.
96 shs Ophir at 207½ per foot.
7 sh Savage at 2000 per foot, s 30.
1 sh Savage at 2035 per foot, s 3.
1 sh Savage at 2030 per foot, s 30.
2 shs Savage at 2160 per foot, s 30.
1 sh Savage at 2150 per foot.
1 sh Savage at 2100 per foot s 30.
7 shs Savage at 2130 per foot.
3 shs Yellow Jacket at 1280 per foot.
1 sh Yellow Jacket at 1290 per foot.
2 shs Yellow Jacket at 1295 per foot s 30.
1 sh Yellow Jacket at 1280 per foot, s 30.
1 sh Yellow Jacket at 1300 per foot, b 30.
1 sh Yellow Jacket at 1280 per foot, b 3.
1 sh Yellow Jacket at 1275 per foot b 5.
1 sh Yellow Jacket at 1230 per foot s 10.
2 shs Yellow Jacket at 1270 per foot, b 10.
1 sh Yellow Jacket at 1275 per foot s 30.
10 shs Chollar-Potosi at 240 per foot s 30.
8 shs Chollar-Potosi at 221@225 pr ft.
8 shs Chollar-Potosi at 233@235 pr ft b 30.
5 shs Chollar-Potosi at 230 per foot b 3.
7 shs Chollar-Potosi at 222 per foot.
6 shs Chollar-Potosi at 217½ per foot s 3.
3 shs Chollar-Potosi at 215 per foot.
6 shs Chollar-Potosi at 220 per foot, b 3.
17 shs Chollar-Potosi at 230 per foot, s 3.
10 shs Chollar-Potosi at 225 per ft b 30.
4 shs Gould & Curry at 640 per foot.
2 shs Belcher at 120 per foot s 3.
5 shs Belcher at 125 per foot, b 30.
2 shs Belcher at 117 per foot.
20 shs Overman at 12½ per share.
20 shs Overman at 15 per share, s 3.
10 shs Overman at 13 per share, b 10.
10 shs Overman at 14 per share, b 3.
70 shs Overman at 13 per share.
10 shs Sierra Nevada at 3 per share.
55 shs Sierra Nevada at 3½ per share.
10 shs Sierra Nevada at 3½ per share.
9 shs Empire M & M Co. at 185 per sh.
1 sh Empire M & M Co. at 195 pr sh b 30.
5 shs Confidence at 80 per share b 30.
10 shs Confidence at 75 per share.
5 shs Imperial at 120 per share, s 3.
2 shs Cal Steam Nav Co at 66 per cent.
10 shs N B & Mission R. R. at 46 per share.

AFTERNOON SESSION.
10 shs Overman at 13 per share.
10 shs Overman at 14½ per foot.
43 shs Ophir at 212½@210 per foot.
48 shs Ophir at 208@212½ per foot.
12 shs Ophir at 210 per foot, a 10.
11 shs Empire M & M Co. at 200@195, b 30.
5 shs Empire M & M Co. at 192@190½ pr sh.
10 shs Chollar-Potosi at 235@233 pr ft s 30.
20 shs Chollar-Potosi at 237@235 pr ft b 30.
7 shs Chollar-Potosi at 230@229 per foot.
2 shs Cal Steam Nav Co at 66 per cent.
24 shs Crown Point at 1150 per foot.
17 shs Yellow Jacket at 1300@1320 per foot.
10 shs Confidence at 75 per share.
5 shs Imperial at 140 per share, b 20.
35 shs Imperial at 140@135 per share.
6 shs Imperial at 140@137 per share.
4 shs Belcher at 116@119 per foot.
7 shs Bullion at 15 per share.
Amount of sales.....\$146,112 50

Friday, December 14.

24 shs Ophir at 212½ per foot.
120 shs Ophir at 208@205 per foot.
85 shs Overman at 15 per share.
10 shs Overman at 14 per share, s 30.
5 shs Sierra Nevada at 4½ per share.
8 shs Gould & Curry at 650 per foot.
8 shs Gould & Curry at 650 per foot s 30.
10 shs Chollar-Potosi at 230 pr ft, s 30.
15 shs Chollar-Potosi at 241@237½ pr ft b 30.
48 shs Chollar-Potosi at 235@230 per foot.
5 shs Confidence at 77½ per share b 10.
5 shs Confidence at 75 per share, s 30.
5 shs Confidence at 80 per share, s 15.
5 shs Confidence at 80 per share, s 30.
5 shs Confidence at 82½@875 per share.
78 shs Imperial at 138@140 per share.
5 shs Imperial at 142 per share, b 30.
20 shs Crown Point at 1180@1150 per foot.
1 sh Empire M. & M. Co. at 195, b 10
2 shs Savage at 2150@2130 per foot, b 30.
1 sh Savage at 2075 per foot.
5 shs Yellow Jacket at 1310 per foot s 30.
1 sh Yellow Jacket at 1330 per foot s 30.
2 shs Yellow Jacket at 1305@1290 pr ft s 10.
2 shs Yellow Jacket at 1290@1300, b 10.
3 shs Yellow Jacket at 1325 per foot b 30.
24 shs Savage at 1320@1290 per foot.
AFTERNOON SESSION.
60 shs Ophir at 205 per foot, s 30.
36 shs Ophir at 206@205 per foot.
100 shs Sierra Nevada at 4½@5½ per sh.
10 shs Overman at 15 per share.
5 shs Confidence at 85 per foot, b 30.
10 shs Confidence at 80 per share, s 30.
5 shs Chollar-Potosi at 230 per foot b 5.
23 shs Chollar-Potosi at 230@224 per foot.
20 shs Crown Point at 1200 per foot.
8 shs Gould & Curry at 660 per foot s 30.
8 shs Gould & Curry at 660 per foot.
5 shs Imperial at 140 per share, s 10.
6 shs Imperial at 140½@140 per share.
9 shs Belcher at 118@120 per share.
85 shs Bullion at 15@12 per share.
6 shs Yellow Jacket at 1300 per foot b 30.
1 sh Yellow Jacket at 1270 per foot b 10.
1 sh Yellow Jacket at 1270 per foot s 5.
1 sh Yellow Jacket at 1270 per foot b 5.
17 shs Yellow Jacket at 1295@1280 per foot.
Amount of sales.....\$164,463

MINING SHAREHOLDERS' DIRECTORY

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of the Month; Sale; and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT OF ASSESSMENT.	DATE OF MEETING.	DAY OF THE MONTH.	AMOUNT AND TIME OF PAYMENT OF DIVIDENDS.
Arbitration Co., \$1.00.		Dec 4-1886	Dec 4-1886	
Ancient River Channel B. G. M. Co., \$2.		Dec 2-1886	Dec 2-1886	
Belcher Co., \$1.00.		Annual Meeting Dec 17		
Belcher Co., \$1.00.		Nov 17-1886		
Belcher Co., \$1.00.		Nov 17-1886		
Bacon Mill & M. Co., \$10.		Dec 11-1886		
Colorado S. & C. M. Co., \$1.00.		Annual Meeting Dec 21		
Chaparral Hill G. & S. M. Co., \$1.00.		Dec 10-1886		
Chilpanoma M. Co., \$1.00.		Dec 1-1886		
Crown Point, dividend.		Payable Dec 15		
Confidence S. M. Co., Storey Co., Nev., div. \$1.00.		Payable July 9		
Cole S. M. Co., \$1.00.		Dec 19-1886		
Dio Pecho G. & S. M. Co., \$1.00.		Dec 3-1886		
Eureka, San Juan, dividend \$1.50 per share.		Payable July 1-1886		
Empire M. & M. Co., dividend.		Payable Dec 8		
Empire M. & M. Co., \$1.00.		Annual Meeting Dec 19		
Forest Springs M. Co., \$1.00.		Jan 11-1887		
Geo. Washington M. & S. M. Co., Alp. Co., \$2.50.		Dec 8-1886		
Gould & Curry S. M. Co., \$1.00.		Payable June 1		
Golden Rule M. Co., dividend.		Payable Nov 16		
Gould & Curry S. M. Co., \$1.00.		Annual Meeting Dec 17		
Gold Hill Union Mill G. & S. M. Co., \$1.00.		Meeting Dec 29		
Gold Quarrying Co., \$1.00.		Jan 11-1887		
Hanscom Co., \$1.00.		Annual Meeting Dec 21		
Hope Gravel M. Co., \$1.00.		Dec 21-1886		
Humboldt G. & S. M. Co., Nev., \$2.		Nov 1-1886		
Hale & Norcross, dividend.		Payable Dec 10		
Imperial G. & S. M. Co., dividend \$3.00.		Payable Dec 15		
Imperial G. & S. M. Co., \$1.00.		Payable Sept 1		
Ione G. M. Co., \$2.50.		Dec 12-1886		
Josephine C. M. Co., \$1.00.		Jan 15-1887		
Jefferson G. & S. M. Co., Yuba Co. Div. \$10.00.		Payable Aug 23		
Keystone M. Co., Calaveras Co., \$1.00.		Jan 21-1887		
Kohler Bros. M. Co., \$1.00.		Dec 3-1886		
Kohler G. M. Co., \$1.00.		Dec 2-1886		
Mount Tenango S. M. Co., \$2.50.		Jan 4-1887		
Mineral Mountain G. & S. M. Co., \$1.00.		Dec 10-1886		
North S. F. H. & R. R. Ass'n \$12.50.		Nov 12-1886		
North Star G. & S. M. Co., \$1.00.		Dec 10-1886		
Overman S. M. Co., \$1.00.		Jan 16-1887		
Pacific Coal M. Co., \$1.00.		Dec 24-1886		
Providence G. & S. M. Co., \$2.		Nov 24-1886		
Patricina and Dolores S. M. Co., Mex., \$2.		Jan 5-1887		
Rattlesnake G. & S. M. Co., \$1.00.		Meeting Jan 26		
Siskiyou M. Co., \$1.00.		Jan 21-1887		
Santa Cruz F. O. W. Co., \$1.00.		Jan 8-1887		
Saltwater G. & S. M. Co., \$1.00.		Nov 24-1886		
Santiago M. Co., dividend.		Payable Oct 8		
Savage S. M. Co., dividend.		Payable Dec 8		
Sierra G. & S. M. Co., \$1.00.		Dec 10-1886		
Sierra S. M. Co., \$1.00.		Jan 15-1887		
Tuolumne M. G. & S. M. Co., \$1.00.		Dec 8-1886		
Texas Flat M. Co., \$2.50.		Dec 20-1886		
Yellow Jacket S. M. Co., div. \$75 sh.		Payable Dec 15		

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

[FRIDAY EVENING, December 14, 1886.]	
	Bid. Asked.
United States 7-10ths.	\$ 78 1/2 \$ 79
Gov. Legal Tender Notes.	72 1/2 74
State Bonds, 7 1/2 cent.	83 87
San Francisco Bonds, 1855, 6 1/2 cent.	100 102
San Francisco Bonds, 1855, 6 1/2 cent.	80 85
San Francisco Gas.	84 85
San Francisco Bonds, 1855, 6 1/2 cent.	70 73
Sacramento City Bonds, 6 1/2 cent.	19 21
Sacramento County Bonds, 6 1/2 cent.	— 63 1/2
Marysville Bonds, 10 1/2 cent.	80 85
Stockton Bonds, 10 1/2 cent.	85 90
Butte County Bonds, 10 1/2 cent.	80 85
Butte County Bonds, 10 1/2 cent.	70 73
California Navigation Co.	65 1/2 68
State Telegraph Stock.	29 34
Sacramento Gas Co.	— 76
Spring Valley Water Co.	80 61

RAILROADS.	
Sacramento Valley Railroad.	— 60
Ombibus Railroad.	— 55
Central Railroad Co.	— 46
North Beach and Mission.	— 47

MINING STOCKS.	
Alpha.	\$ 80 \$ 85
Bullion, G. H.	11 13
Belcher.	118 118
Confidence.	75 80
Opbir.	200 205
Gould & Curry.	650 670
Empire M. & M. Co.	180 190
Savage.	2070 2100
Chilpanoma.	223 226
Hale & Norcross.	2500 —
Yellow Jacket.	1250 1280
Overman.	16 16
Crown Point.	1180 1210
Imperial.	140 142

San Francisco Market Rates.

WHOLESALE PRICES.	
Friday, Dec. 14, 1886.	
Flour extra, 3 bbl.	6 00 @ 7 00
Do Superfine.	5 50 @ 6 00
Corn Meal, 3 100 lb.	2 00 @ 2 50
Wheat, 3 100 lb.	1 80 @ 1 90
Oats, 3 100 lb.	1 35 @ 1 55
Barley, 3 100 lb.	95 @ 1 00
Beans, 3 100 lb.	2 50 @ 3 00
Potatoes, 3 100 lb.	60 @ 1 25
Hay, 3 ton.	8 00 @ 10 00
Live Oak Wood, 3 cord.	8 00 @ 10 00
Beef, extra, dressed, 3 lb.	6 @ 6 50
Beef, on foot, 3 lb.	10 @ 12 1/2
Hogs, on foot, 3 lb.	7 1/2 @ 8
Hogs, dressed, 3 lb.	10 @ 12
GROCERIES, ETC.	
Sugar, crushed, 3 lb.	— @ 13 1/2
Do China.	10 @ —
Coffee, Costa Rica, 3 lb.	25 @ —
Do Rio.	24 @ —
Tea, Japan, 3 lb.	80 @ 90
Do Green.	80 @ 1 25
Hawaiian Rice, 3 lb.	9 @ —
China.	8 1/2 @ 7 1/2
Candies, 3 lb.	16 @ 23 1/2
Rauch Butter, 3 lb.	30 @ 35
Isthmus do.	26 @ 30
Cheese, California, 3 lb.	10 @ 17
Eggs, 3 doz.	40 @ —
Lard, 3 lb.	15 @ 16
Ham, Bacon, 3 lb.	18 @ 20
Shoulders.	12 1/2 @ 15

Retail Prices.	
Butter, California fresh 3 lb.	45 @ 65
do pickled 3 lb.	40 @ 50
do Oregon.	35 @ —
do New York, 3 lb.	40 @ 50
Cheese, 3 lb.	15 @ 25

Honey, 3 lb.	30 @ 40
Eggs, 3 doz.	5 1/2 @ 6 00
Lard, 3 lb.	2 1/2 @ 2 50
Ham, and Bacon, 3 lb.	22 @ 23
Cranberries, 3 gal.	1 1/2 @ 1 00
Potatoes, 3 lb.	1 1/2 @ 2
do Sweet 3 lb.	1 1/2 @ 2
Tomatoes, 3 lb.	6 @ 8
Onions, 3 lb.	3 @ 5
Apples, No. 1, 3 lb.	3 @ 5
Pears, 3 lb.	8 @ 10
Plums, dried, 3 lb.	20 @ 22
Peaches, dried, 3 lb.	15 @ 16
Oranges, 3 doz.	50 @ 60
Lemons, 3 doz.	75 @ 80
Chickens, 3 lb.	50 @ 75
Soap—Palm & C. O.	8 @ 10
Castile.	14 @ 15

Professional Cards.

SHERMAN DAY,
Mining Engineer,
No. 57 Montgomery Block, San Francisco.
Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, the machinery management and expenditures of mines.

FREDERICK MANSELL,
Mechanical & Architectural Draughtsman,
No. 422 California street, corner of Leidsdorff.
Drawings of Monks made for parties applying for patents at Washington or London.

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
COURT COMMISSIONER, appointed by the Fourth District Court, COMMISSIONER OF DEEDS for Nevada and Massachusetts.
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Entrances opposite City Hall, Merchant street, and 638 14th St.

W. E. GOLDSMITH,
Card and Seal Engraver,
505 Montgomery street, up-stairs, (over Tucker's.)
SAN FRANCISCO.
Wedding and Visiting Cards printed with the utmost neatness; Notarial, Commissioner and Society Seals.

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DENTIST,
No. 634 Washington Street,
Between Montgomery and Kearny Streets
[OVER SAN FRANCISCO RATES]
SAN FRANCISCO. 20v10-4y

DR. D. R. BECKFORD,
OCULIST,
Office of Dr. Beckford, "Golden Eye Water,"
16v12-5m NO. 719 CLAY STREET.

AUGUST KUNAST,
Stock Broker,
Member of the
San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
Office, No. 540 Washington Street, San Francisco. 2v10

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GEORGE H. POWERS, M. D.,
Gives exclusive attention to
Diseases of the Eye.
No. 626 California street, between Dupont and Kearny.
Dr. Powers refers, by permission, to Rev. A. L. Stone, D.D., Ira P. Rankin, Esq., L. B. Benschley, Esq. 17v13-6m

DR. A. H. BARTMAN,
Electro-Magnetic Physician,
CURES ALL CURABLE DISEASES, BY THE CONCENTRATION of the vital forces, Nature's own method of cure. The blind made to see, the deaf to hear, the lame made to walk, and the sick healed. Come and see the afflicted at the rooms. They will speak for themselves. The poor treated free from 10 to 11 A.M. and 4 to 5 P.M. Operating rooms, 523 Kearny street, between Sacramento and California. 21v13m

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Fine Custom Made Clothing
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Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES
BOTH OF MATERIAL AND FINISH.
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Trunks, Valises, Carpet Bags, Blankets, Etc.,
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J. R. MEAD & CO.,
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J. R. CONE & CO.,
Employment and Business Agency.
J. B. CONE & CO.,
Supply Male and Female Help, sell Farms, Mines and places of business, negotiate loans, and procure partners.
Orders sent by mail or express will be promptly attended to.
J. B. CONE & CO., No. 492 Montgomery street, 12v13m SAN FRANCISCO.

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

ANSTED'S Gold Seekers Manual. 1 vol. 12mo. cloth.	\$ 1 75
ANTISELL.—The Manufacture of Photogenic or Hydrocarbon Oils, from Coal and other bituminous substances, capable of supplying Burning Fuels. By Thomas Antisell, M. D. 1 vol. 8vo.	3 00
BUCKLAND (Rev. Wm.)—Geology and Mineralogy. 2 vols. 8vo. cloth.	10 00
DUFRENOY.—Mineralogie. 5 volumes, 8vo.	20 00
DANA'S Manual of Mineralogy. Revised edition. 29 illustrations. 12mo. cloth. New Haven.	2 25
DANA'S Manual of Geology. Numerous illustrations. 8vo. half morocco. Philadelphia, 1833.	6 75
DANA'S Text-Book of Geology. Illustrated. 12mo. cloth. Philadelphia, 1844.	2
ELDERHORST'S Blowpipe.—Analysis and Determinative Mineralogy. Third edition, revised. 8vo. cloth. Philadelphia, 1866.	1 50
FAIRBAIRN.—Iron: its History, properties, and Processes of Manufacture. By Wm. Fairbairn, C. E., LL. D. 1 vol. 8vo. New Edition.	4 00
FEUTCHWANGER.—A Treatise on Gems. 1 vol. 8vo. cloth.	1 75
GOODYEAR'S Translation. A Treatise on the Assaying of Copper, Silver, Lead, Gold and Mercury, from the German of Th. Bodeman and Bruno Kerl. 1 vol. 12mo. cloth.	2 60
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IMPORTANT

Mining Summary.

Tax following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the *Miner* of Dec. 8th: The team loaded with the balance of machinery and material for the Washington mill arrived at the mill yesterday. Capt. Uzman may be able yet to get out his first "brick" before Christmas.

Mr. E. Arnold, last week, in seeking the best point from which to run a tunnel to open the Somanuk extensions of the Mowyer and Mahogany lodes, up Lexington Cañon, discovered two other and well defined veins of quartz lying parallel with and below the two named. Mr. A. located for the company 2,000 feet on each, and named them the "Keystone" and "De Kalh." The whole series can now be opened by a tunnel and great depth attained.

From the Silver Mountain *Bulletin* of Dec. 1st: In the George Washington mine the ledge has gradually widened for the last twenty feet run in the tunnel. It is now full five feet in thickness, and the ore as rich as ever.

Amador County—

From the *Ledger* of Dec. 8th: The Newtown mine is proving richer and richer every day. We have before us a piece of ore taken from the pile at the shaft that will assay at least fifty if not sixty per cent., and there is plenty more of the same sort at the bottom of the mine.

The Butte Basin Mining Company, at Butte City, has been incorporated with a capital of \$216,000.

A letter to the *Times* from Volcano, Dec. 9th, gives these items: The mines around Volcano are looking better than ever. The Golden Gate has taken out \$1,900 during the last five days' run with their ten-stamp mill. The Vaughan Company is making a run through the Fogus mill of 200 tons of rock, and during a week past they were taking out rock that will pay \$1,000 to the ton. Heretofore, rock from this mine has paid only about \$14 to the ton on an average.

The Italian mine, now owned by Senator Rose, it is reported, is doing well at Sutter Creek. The Railroad, running parallel with the Hayward, 400 feet east, seems to be a permanent mine, and the parties working it are now working 300 feet from the surface, and are taking out rock that averages \$18 to the ton. The Mahoney brothers have in one place paying ore ninety-seven feet in width on their lode.

The Mechanics' Quartz Company is having 100 tons of rock crushed at the Wildman mill. A. W. Rose is building a new mill on Sutter Creek, about a mile above town. The Sacramento owners in the Wildman mine are still driving a shaft, 500 feet from the surface, south, with a good prospect ahead. Last, but not least in importance, in the way of new quartz mills, we have C. T. Meader & Co. now located here, and building and running mills for reducing sulphurets. Their enterprise leads us to consider that we are about to see a new era in quartz mining, for there are now four of these mills, the property of Meader & Co., running in this county.

Butte County—

Bangor correspondence of the *Marysville Appeal*, Dec. 7th, says: A short time since a company from Virginia City sent their agent over here to prospect the famous "Blue Lead." He commenced operations in a shaft belonging to Barnum & Co. They went at it with a "will," working day and night, until about two weeks ago, when they found what they were looking for—"rich dirt." It pays about eight dollars per day to the hand, and some of it prospects one dollar to the pan.

The North American Company have commenced work on their claim. They are also putting up a water wheel for the purpose of drawing the dirt and water to the surface. It is their intention to prospect the lead thoroughly. H. G. Kendall has a new shaft down fifty feet on his claim and the work is going on finely. The Buckeye Company have also commenced work on their claims. They expect to sink their shaft about 180 feet before they strike "bed rock." There have been a good many of the old claims and shafts taken up, but there is plenty of ground left yet.

Calaveras County—

From the *Chronicle* of Dec. 8th: Latimer & Co. have for some time been opening the Merrimac on Central Hill, and ten days ago struck into the old channel, running through Chile Gulch and Stuart's Hill, and with the labor of five men for six days, took out 108 ounces of gold, worth nearly \$2,000. The Monitor claim adjoining, on the same channel, is being worked with a flattering prospect. There are many other claims in this vicinity paying cleverly for the labor done upon them. A company has also struck rich quartz, and

took out, in a hand mortar, \$1,500. This was the result of two men's work for ten days.

Colusa County—

From the *Sun* of Dec. 8th: We have seen several specimens of smelted copper from the Ashton works. It had only undergone one process—that of roasting—but it showed a very great proportion of copper. The company are more sanguine of success than ever.

El Dorado County—

From the *Placerville Courier* of Dec. 8th: The indications at present are very strongly favorable for an increased activity in quartz mining in this county. News comes in from time to time, from various quarters, of new and rich discoveries, and renewed energy in working old claims. Many claims heretofore abandoned for want of confidence or lack of practical knowledge or capital for their proper development, and various other reasons, are again being worked; and with the new and improved facilities discovered and being demonstrated for saving gold from different qualities of rock, there is a strong probability that much quartz that would not pay the expense of working a few years ago, will prove richly remunerative now.

A correspondent of the *Union*, writing from Latrobe, Dec. 2d, says: A few days ago Hitchcock and Cory took up claims on a quartz ledge, about six miles northeast of Latrobe, which appears to be the "mother ledge." It is about fifteen feet in width, and prospects immensely rich. The Monitor claims, on Big Cañon, have been sold recently to parties at the Bay, who are putting up the necessary machinery for pumping the water and working the quartz.

The Tullock Company near Brownsville, cleaned up, last week, forty-three pounds of amalgam from 100 tons of rock.

The *Alta's* Placerville correspondent writes, Dec. 5th: Prospecting has received a new impetus. Mr. Shepard, a few days ago, commenced prospecting a lode of decomposed quartz, which had been traveled over for years by learned professors and called sandstone. At the depth of two feet he found solid quartz rich in gold. During the first four days he picked up and panned out over eight pounds of gold. Gov. Blaisdel has an extension of the ledge. The Manning mine has been sold to Judge Turner.

The same writer visited the now noted Woodside mine. While there, four candle boxes were hoisted from the mine in the tub. He says, "I have no hesitation in saying that one-third of the contents of those boxes was bright, pure gold." The slah, which has been mentioned turned out to be porous and brittle, and had to be broken up. I saw pieces of it which weighed four and five pounds. Under the pilotage of Mr. Porter, foreman of the underground work, we descended into the mine, and fairly walked to the end of the drift on a vein of gold.

Inyo County—

A letter from Kearsarge to the *Territorial Enterprise*, under date of November 30th, has the following: The Kearsarge company own several lodes, but thus far have done work only on the Cliff and Kearsarge. They own a fine 10-stamp mill. There is now "in sight" forty or fifty tons of very rich ore, that will undoubtedly pay from \$150 to \$500 per ton.

The Alturas company own fourteen lodes. The ore from the Silver Spout has worked by mill process over \$100 per ton, and by a roasting process, on a small scale, yielded at the rate of \$940 per ton. The company are about selling out to a San Francisco company, and it is proposed to erect a mill and work the lodes on a large scale. Two miles north are the Hughes' ledges—forty in number. This company have been offered and refused to take \$50,000 for the group. On Piñon Creek, to the south, a large lode, from four to ten feet wide, assays from twenty to sixty-five dollars per ton in gold. Lower down in the valley are a number of lodes located by Mexicans in the Lower Pine district. One of these is rich in gold, and is twenty-five feet wide. The others seem richer in silver.

Mariposa County—

From the *Gazette* of December 18th: Dr. Lawrence, we have been informed, made a discovery recently of a rich quartz vein, near the old Beasley place, a few miles west of the town, of Agua Fria. The ore will pay from \$200 to \$300 per ton, and the dirt alongside the ledge yields from fifty to seventy-five cents per pan.

A new and rich quartz lode has been discovered near Agua Fria. The ore has assayed from \$200 to \$300 per ton.

Nevada County—

From the *Gazette* of Dec. 6th: The Manzanita mill has been compelled to temporarily suspend operations by the breaking of the flange of the hurdy-gurdy wheel. Owing to the cold nights since the rain ceased, the water has not yet increased enough to induce owners of mill claims to commence work.

From the same of the 8th: Two hundred tons of rock from the Consolidated Wisconsin and Illinois mine, recently crushed at the

Gold Hill mill, yielded \$65 a ton. Besides this, fifteen tons of sulphurets were saved, valued at \$150 per ton.

We saw yesterday some very fine specimens of gold-bearing quartz from the Cunningham mine.

The Gouge Eye Co's sluices were robbed last week and the blocks left lying loose. The next morning the blocks were washed away before the mischief was discovered. This will lead to considerable delay and expense.

From same of 11th: We were shown yesterday some fine specimens of ore from the Mary Etta ledge, situated on Diamond creek, three miles above Omega. The specimens show free gold and sulphurets in abundance.

From the *National* of Dec. 5th: We understand that several thousand dollars in specimens were taken out of the incline of the old Gold Hill mine the other day. An old miner, who has been here since 1850, tells us that he never saw richer rock.

Same of 10th: Works are to be erected at the Eureka mine for the purpose of working the sulphurets by the "chlorination process." Hitherto it has been found impossible to work these sulphurets successfully.

Charley Stewart, an employee of the Empire mine at Grass Valley, on the 1st instant picked up a gold specimen in Woodpecker Ravine valued at \$275. The rock weighed twenty-eight ounces, and contained sixteen ounces of gold.

From the Grass Valley *Union*: Tracy & Bell have struck rich gravel in their claim on Squirrel creek. They have been engaged for some time in running the tunnel. The Cambridge mine is at last well opened, and the prospects of its proving a first-class mine are flattering.

From the *Transcript* of Dec. 4th: A ten-stamp mill is soon to be erected at the Whigham mine. The ledge is twenty inches wide. The rock averages \$60 to the ton. We understand that parties from San Francisco have taken a contract to erect a twelve-stamp quartz mill upon the Big Blue lead, owned by the Murchies.

From same of 5th: Eureka District stock is on the rise, and a large amount of capital has recently been invested in that vicinity. The Young ledge, owned by Black & Co., has been well prospected. The last two runs amounted to 180 tons, and averaged \$20 to the ton. Booth & Co. have erected two arastras and a crusher upon their claims. They are down forty feet on the ledge, and find it four feet in width. They have 130 tons of quartz at their mill. The Liberty Mining Company, Col. Bragg and others, have leased a five-stamp mill belonging to Col. Jackson. The Liberty tunnel is in 300 feet, and they have out a large lot of rock. The ledge owned by Snapp and others has been sold to a German company for \$8,000. The purchasers have already started a tunnel near the mill of Black & Co., which will be 800 feet in length, and will strike the ledge at a great depth below the surface. Reasoner Bros. have out about one hundred tons of rock from their ledge, which will be worked at Black & Co's mill.

From same of 6th: Very rich rock was struck in the Pennsylvania mine, a day or two since. Rock could be selected which would pay over \$1,000 to the ton.

From same of the 8th: The Best Chance mine is upon the ridge beyond Canada Hill. A short time since machinery was erected upon the ground by Mr. Sherwood, of Marysville. They are now down upon the ledge 75 feet, where it has widened out to four feet. The rock is of a bluish color, and is filled with sulphurets. A considerable amount of free gold can be seen. The Amazon mine is a short distance from Nevada, in the direction of Gold Flat. The incline is down over 100 feet. The ledge is of good size and well defined.

Excelsior.—From the *Sun*, Dec. 1st: At a late meeting of the Excelsior Company, it was resolved to close the mill for the present. We learn that assessments will be levied until a sufficient sum has been collected to pay off all indebtedness, and put the mill and machinery in good working order.

Twenty-seven tons of Pacific rock, of which only 22 tons was supposed to be paying ore, was worked at the Winton mill. There remained, after retorting, 29 ounces of bullion, of the assayed value of \$378. Five tons of sulphurets were saved.

The present population of Excelsior is between 500 and 600. Mendoza, Ossaville and Paris have been deserted for a month.

The Gold Hill *News* says the snow is five feet deep at Meadow Lake, but the people are enjoying themselves with dancing parties, etc. The California Co. have resumed work. The Pacific has most cheering prospects. The U. S. Grant is running its mill all the time. The Golden Eagle is hard at work.

Placer County—

From the *Stars and Stripes* of December 5th: Quite a number of miners and prospectors have arrived in town.

A private letter from a friend at Iowa Hill, says the late rains have filled the ditches with water, and that "piping" and sluicing will be carried on at a lively rate.

From the *Dutch Flat Enquirer* of December 8th: Our miners are now blessed with an ample supply of water. The Yuba ditch is running full, the Dutch Flat canal affords a good supply, and Hall's ditch furnishes several heads. The consequence is that hydraulic operations on a grand scale are being prosecuted with extraordinary activity, and our hillsides fairly hum with the music of falling waters.

Shasta County—

From the *Courier* of December 8th: The Washington company at French Gulch, have cleaned up, after a month's run, the sum of \$2,008. We understand that the owners of the Chicago ledge have made arrangements with Colonel Walsh to prospect the claim from this time until the first of March, with the privilege of purchasing. James Blackburn has struck a rich claim on a bar of Trinity river, opposite Myers' ranch. The ground prospects as high as \$1.50 to the pan. On Sunday morning last, Henry Moats found a gold nugget, weighing 2½ ounces, near the main road, below Salt Creek.

Peck & Ellsworth have leased the Ohio lode, for the purpose of prospecting, and have the privilege of purchasing at the expiration of the lease. They are now sinking a shaft, and have already struck rock of great richness.

In removing the foundation upon which the battery of Loag's old quartz mill stood, several hundred dollars' worth of amalgam was found.

In Flat Creek the Brumfield brothers are working a bar claim that pays from six to eight dollars a day to the hand, and they have ground enough to keep them employed for years to come. George McKean owns a claim in which he averages from four to five dollars a day.

Sierra County—

From the *Messenger*, Dec. 8th: The Sierra Buttes mill cleaned up recently, \$38,000. The Good Hope Company had one hundred and thirty tons of unpicked rock crushed at the Gold Bluff mill, from which they realized \$3,000.

The diggings of the Hawkeye Company at Howland Flat, filled with water two or three weeks since, in consequence of which all work was suspended. The company have let a contract for a new tunnel, at a level sufficiently low to drain all the ground.

The Slug Cañon mill and mine are rapidly coming into working order. The shaft has been put down about forty feet and breasting commenced.

"Dan de Quilla" writes Dec. 1st, from Downville to the *Enterprise* thus: The tunnel in the Mammoth has just cut the lead—forty-five feet in. This vein is rich in fine gold. The Boston Company who have purchased the old Wheeler claims, are getting the dilapidated works into shape. They have a new flume, and the mill will soon start up. The Good Hope are taking out excellent ore, which is being reduced at the Gold Bluff mill. The Gold Bluff Company are running a tunnel to their lead, which will tap it several hundred feet below the surface. To-day there arrived from the Reis mine, Sierra Buttes twelve miles above here, \$42,000 in gold.

Siskiyou County—

From the *Yreka Journal* of Nov. 30th: On Scott river several mining companies have taken out their wheels and mining apparatus in anticipation of a rise in the stream.

Notwithstanding the great excitement about rich quartz on Humbag creek, the placer diggings are also holding their own in paying handsomely.

Toulumne County—

The *Herald* says the miners have plenty of water, and are busy at work.

NEVADA.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

From the *Territorial Enterprise* of Dec. 5th: The bullion has accumulated so fast at the stage office for the last day or two that the usual stage could not take it all. A ton of it thus accumulated.

From same of 6th: On Monday evening the Sierra Nevada "struck it" at a distance of about 150 feet from the shaft, or nearly 400 feet east of the Comstock ledge. When they cut through the casing a large body of water rushed in, preventing further progress. It rose in the shaft some five feet in a short time, but by means of haling over since, the water has got reduced somewhat, and in a short time the merits of this new discovery will be determined. The Imperial and Empire Companies are getting the requisite timbers, etc., ready for their new hoisting works, which they propose erecting at their new shaft in February.

Reports from Kearsarge are favorable. The mill is running on ore from the Kearsarge

mine, crushing at the rate of about six tons each twelve hours, the mill not running nights. The ore yields an average of about \$100 per ton, although some of it will yield much richer. Mr. Pierce has already shipped 270 pounds of bullion, worth \$4,000.

From same of 7th: The Empire Company, at Gold Hill, have got the water all out from the lower level of their mine and resumed operations at that point where, it will be remembered, a new body of ore was encountered a short time since. The value of this new development will soon be ascertained.

The new 120-horse power engine of the Gould & Curry Company, at the Bonner shaft works is hard at work pumping. There is still about fifty feet of water to get out before the sinking of the shaft will be resumed. Another hoisting engine of 80-horse power will be completed and started into operation in about a week.

From same of 9th: An amalgamator in the Confidence mill, below Devil's Gate, was suspected of stealing amalgam. He was watched and detected in the act. His room-mate was informed of his arrest, and he was watched. He soon after went to his room and thence to a privy. The officers pounced upon him but a moment too late. A night-work contractor was sent for. His labors were rewarded by the discovery of fifteen pounds of amalgam.

From the Virginia Union of Dec. 6th: The Rhode Island mill was, a short time since, thoroughly overhauled. It now has a new engine of 150-horse power, four boilers, twenty-five stamps which crush fifty tons of ore daily, and eight new Humphreys pans, four settlers and two agitators. The Illinois mill, at Dayton, has recently been renovated. Twenty stamps, six pans and two settlers work twenty tons daily of Yellow Jacket ore.

Forty miners left Virginia City on the 5th inst. for the sink of the Humboldt, to work on the mines of the Uticu Company. A 10-stamp mill will be immediately erected.

From the Gold Hill News of Dec. 5th: In the Yellow Jacket they have at the present time, more good ore than at any time since the mine was opened. In the old works while drifting, they came upon one of the most extensive and rich deposits ever found in the mine. The company are taking from that deposit alone some 150 tons per day. They have already drifted into it seventeen feet and find nothing but pure pay ore. From the new works the company are taking out a large amount of excellent ore. The Crown Point mine has a large body of first class ore, which promises to be one of the most extensive ever found in this mine. The Savage and Hale & Norcross are taking out a large amount of good ore, while the prospects of the Gould & Curry and the Chollar-Potosi, are of an encouraging character.

A cave occurred on the north side of the Trench mine, next to the Eclipse, a day or two since, which took down with it a large portion of the south wall of the Eclipse hoisting works.

Reese River—

From the Reveille of Nov. 30th: The Commercial Company, located on the Smoky Valley ledge, has a tunnel 284 feet long. We learn that the original Smoky Valley Company has sold its property in New York. The property had been opened by a tunnel 350 feet in length. The Smoky City location, also on the Smoky Valley ledge, and several other locations, have been sold to certain parties in Sacramento City, under whose management work will be resumed. Our informant believes that the Everett Company will again undertake operations on the return from the East of its superintendent. The Colfax ledge, about eight miles from Austin, in Smoky Valley District, was recently sold to parties in New York City, who are now making preparations for active work. The series of ledges lying between Geneva and the Colfax mine, known as the Onmargo S. M. Co., have been sold to a substantial company. The indications are, that the district of Smoky Valley will soon present a scene of activity and prosperity.

Operations continue active at Hot Creek. The Indian Hunter has a shaft eight feet in depth. The ledge exhibits eight feet of quartz, in which there is a stratum of extraordinary rich ore one foot in width, which, according to estimates, will yield \$600 per ton. The Mountain Eagle, in Rattlesnake Cañon, improves, and in an incline ten feet deep exhibits a vein of six feet, from which some six tons of ore are on the dump that will pay \$150 per ton. The Old Dominion is looking beautifully over its whole width of eighteen or twenty feet, from the surface to the bottom of its ten-foot incline, and develops rich and improving mineral. The mill of the New York Company will be running by January 1st.

From the same of Dec. 3d: Yesterday afternoon Col. Buel and M. D. Fairchild returned by the way of Silver Bend from a trip to the Reveille District. The Colonel brought in 8,458 ounces of bullion. We learn from M.

D. F. that the mill is enclosed and repaired, and will now yield a larger measure of bullion than ever. The Highbridge mine is developing beautifully. Mr. A. Monroe left this morning for Ophir Cañon, to take charge of the Twin River Co's mill.

Same of 4th: Paxton, Thornburg & Co., bankers, in Austin, make the following report: In October, we shipped \$24,477.28. Of this amount we received \$8,603.51 from Col. Buel's mill at Silver Bend. In the month of November we shipped \$64,160.28. Of this amount we received from R. B. Canfield, Superintendent of the Twin River Mining Company, \$35,436.19, and from Col. Buel's mill at Silver Bend, \$16,474.05.

Same of the 5th: "Notes of a Prospector" says that in the Highbridge mine the entire mass of ore in sight, amounting to thousands of tons, will, at the most moderate computation, average \$100 per ton.

Four hundred feet on the Transylvania ledge No. 1 was purchased by Col. Buel and S. Wood for \$11,000 in coin. Six men worked four days in stripping the ledge, when they were offered an advance of \$20,000 upon their purchase money, which was declined. They now have the vein opened for a distance of 160 feet and to the depth of 20 feet. It is about eight feet thick, estimated to average \$100 per ton. The Bateman & Allen opens up well. The Canfield, of 2,000 feet, has been purchased by an Eastern company, who will at once erect a mill.

From same of 6th: The Belmont mill, at Silver Bend, whose "head and front" is Col. Buel, has a battery of ten stamps, a half dozen Varney pans, and is producing at the present time about one thousand dollars' worth of bullion each day. The ore is not roasted, being crushed wet, and yields about seventy per cent. of the pulp assay. This ore is from the Highbridge mine, and can be supplied in unlimited quantities—from 50 to 100 tons usually lying at the door head of the battery. Ten stamps will be added in the Spring.

In Cortez District, work is progressing on the Taylor and Passmore and the Cortez Giant mines. Preparations have been made to continue work on the former during the winter. The Cortez Giant is being worked with more than usual vigor, and some fifty men are employed. The ore is packed over a very rough trail a distance of seven miles to the mill. One hundred and twenty-five mules are employed, making one trip daily, each mule carrying 400 pounds.

In the Buckeye mine, North Twin River District, the vein improves beyond expectation. The mill of the Manhattan company will commence crushing on Monday next. Some 9,000 ounces of bullion were received in town late yesterday afternoon from the Twin River Mining Company. It would not be at all surprising if that splendid property yielded fully \$60,000 the present month.

The Alta of Dec. 8th says: We have been shown some of the richest silver ore that has ever been brought here in quantity. It is from the Palmetto mines, of Silver Peak District, Nevada, the property of a New York company. The freight on the ore to this place was \$180 per ton. Part of it will be worked here and part shipped.

Humboldt—

From the Register, Dec. 1st: In the Essex, a ledge three feet four inches has been struck 300 feet from the surface. The ore is estimated to work about \$80 per ton. This is a most important event. It prospects a large claim, owned by a company abundantly able to keep on with the work and prosecute it to the shipment of bullion; but it does more—it prospects to entire satisfaction the old claims on the same series of ledges, known as the "Tallulah," the "Honey Lake," and the "Empire."

At Oreana the smelting goes on well. The refining process has not yet been perfected.

The Gem is in a fair way to re-assert its pre-eminence. A week ago, the workmen struck a vein of as fine metalliferous quartz as was ever found in the upper prospects. It was in a tunnel, running off from a shaft, and about 100 feet from the surface. The ledge is full two feet in width. The ore is of the class known as \$80 ore.

The New York Company, operating on an extension of the Mouroe Series, has struck an excellent ledge—six feet in width, well cased, the quartz assaying about \$100 in gold to the ton.

Esmeralda—

From the Union of Dec. 1st: Messrs. Silvers & Lott have recently re-opened their old claim situated on East Chance Hill, and have struck a ledge of some four feet in thickness at the bottom of the works. The ledge discloses a fine body of pay ore. Several very rich streaks of gold bearing rock and silver sulphurets course their way through the ledge. One of the strata of sulphurets is not less than two inches thick and will pay one dollar per pound.

R. H. Evans formerly superintendent of the Real Del Monte has returned. It is understood that he will re-open the mine, and start the mill.

The Walker River mines are exciting considerable interest here and in other portions of the State. We learn that steps are now being taken by parties from Virginia City in connection with other gentlemen for the purpose of erecting a first class mill immediately.

A letter to the Territorial Enterprise from Wilson's district says: Messrs. Cheever, Pray and Todman have purchased the Bodie mill at Aurora, and say they will have it in here and running in sixty days. Others talk of putting up mills. New discoveries are being made almost every day, and the only question now to be settled is depth.

A 4-stamp mill has been shipped from Aurora to Columbia district by Col. Young. Ore from the district has been worked in Dayton, which yielded from \$90 to \$360 per ton.

Pahrnagat—

The Reveille of Nov. 30th says: The prospects of Pahrnagat are just now very encouraging. Late explorations have opened a short and direct route from Austin to the very core of that district, so easy and free from the ordinary natural obstacles, that it is said loaded wagons will experience no difficulty in making the trip in a short time. The five-stamp mill of the Pioneer Company, erected by Mr. Raymond, was to be started up on the 19th of November. At the Illinois ledge, 75 to 100 tons of ore were ready for the mill.

IDAHO.

From the Owyhee Avalanche of November 24th: What is known as the middle tunnel of the Hays & Ray has been made to connect with the Poorman discovery. The tunnel follows the exact line of the Hays & Ray vein, and is over 450 feet in length, and taps the Poorman discovery 150 feet below the surface. Mr. Peck informs us that this tunnel shows a ledge from two to three feet, containing ore in character the same as the Poorman. The Silver Cord dump pile contains nearly seven hundred tons of the richest quality of ore, and the "indications" improving, if any change. The works embrace about seven hundred feet of tunneling and shaling. Vulcan ledge, believed to be an extension north of the Silver Cord, is one of the best mining interests in Owyhee. The owners are taking out huge quantities of ore of satisfactory richness.

The same of December 1st: The Wehfoot mill has been engaged for several weeks in prospecting ledges for different parties. A sample of several tons from the Noonday gave satisfactory results; but the most encouraging test was that of the Woodstock. The Whisky Gulch ledge is being constantly worked upon, and is gradually developing into a large and very well defined interest.

The Idaho City Times of 20th of November credits the following to the Bulletin, a new paper: The tunnel of the Mountaineer company is going on at a rapid rate, and is now in over 250 feet. The rock prospects well by hand process.

MONTANA.

From the Post of November 24th: Corbett, the mining engineer, has been engaged in constructing works for the Boulder Ditch company, at Diamond City, which will be finished before May 20th, 1867. The water will be conveyed from one side of Confederate Gulch to the other, through an iron tube seventeen hundred feet in length and fifteen inches in diameter. The trestle work that supports this tube will be eighty feet in height.

"Lost Horse Gulch" is about thirty miles from Helena. One of the newly returned prospectors shows the proceeds of one pan of dirt taken from this gulch—about \$3.50 of beautiful gold, none of the particles being smaller than a large pin-head, while the largest is about the size of a sugar pea. The claims have been laid over until the 15th of May next.

A real stampede took place from Helena on the morning of the 15th. Some of the Minnesota boys struck upon some very rich diggings in the neighborhood of Uncle Ben's Gulch, and came in and gave the wink to their friends. The result was that over one hundred persons, chiefly Minnesotians, left in haste to stake their claims. The diggings are said to be about twelve feet in depth to the bedrock, and to turn out coarse gold and nuggets weighing from fifteen to one hundred dollars.

A letter to the Copperopolis Courier from Montana City, dated October 30th, has the following: The claims are all laid over till next May. I feel well satisfied with the country, and think there is gold here in sufficient quantities to pay. The country is not as yet prospected, and cannot be worked out for years. The gold lays deep. We find mountains with beds of washed gravel to the very tops. In the ravines and gulches the bedrock is from ten to thirty feet deep, and in many places the miners are unable to get down at all on account of water.

COLORADO.

From the Black Hawk Journal of Nov. 20th: About a mile west of the forks of James' creek, a new belt of lodes has lately been discovered, cutting through a hill 400 or 500 feet high. These are gold lodes with dirt crevices, prospecting fifty fathoms to the pan, and from two to six feet in width. Stanley & Co. brought in seven or eight ounces of gold taken out of this dirt with a rocker. It is very fine. None of them has been sunk upon more than twenty feet as yet. About thirty lodes have been struck on this hill. The entire face of the hill for several acres in extent prospects from five to ten cents to the pan. There is no water nearer than from a fourth to a mile. It can be brought in any quantity from the St. Vrain, by a ditch four miles long.

From the Register: The shipments of gold have constantly increased since the 1st of July, the shipments of July being \$11,067 more than the shipments of June. The August shipments exceeded those of July by \$15,502. September shipments showed an increase of \$37,357, over August. While the increase of October is \$3,574, exclusive of Smith & Parmelee, whose October yield was not shipped until November. Including this the increase in October will not fall short of \$30,000.

Messrs. Cushman and Cressy of Central are putting up a 9-stamp mill in Ward district, which they will soon have running.

From the Denver News of Nov. 21st: The Pioneer Company's mill now in successful operation at Montgomery, made a clean-up on the 10th instant and got a very nice chunk.

The Nonpareil Mining Company is composed almost exclusively of printers. They have some of the best lodes in the Territory, a portion of which are situated in the Snake River region.

The burning of the Ni-Wot mill, in Ward district, aside from the pecuniary loss to the company, is a great loss to the country, and will prove a heavy drawback to the advancement and prosperity of mining enterprise in the district where it was situated. This mill was one of the most complete in the Territory. The works had just been completed, and everything was in the most perfect running order. The ore from the mine has been fully tested. On the day following that on which the fire occurred, the whole fifty stamps were to be put in motion for the winter campaign. The gold already taken out, before the whole battery was set, had placed stockholders in jubilant spirits. The expenses for supplies for winter had all been met, and the same safely stored for use. There was no possible danger of failure. Ward mining district is thrown back at least a year in its mineral development.

The principal coal mines of this Territory, that are now opened, are situated in Boulder county. Among these the "Kitchen" bank is the most celebrated. The Kitchen bank is now opened for a distance of about one hundred and sixty feet, and shows a vein twelve feet in thickness. The vein has increased gradually from eighteen inches on first opening, to its present proportions. Several new veins have been discovered during the present season. The mines now worked are mostly situated near the Belle-Mont iron furnace and foundry. The late discoveries extend down the Boulder river ten or twelve miles below Boulder City.

The great bulk of iron ores yet discovered in the Territory, like the coal, is found in Boulder county. The ore is of the variety known as limonite, and is found in patches, from which large masses are frequently taken. These pockets are very numerous. On assay the ore yields seventy-six per cent. It is easily melted, being in combination with an excellent flux of manganese. The iron obtained is of the best quality, being soft and of that blue appearance on fracture that is deemed desirable by foundry men.

OREGON.

It is reported that very rich deposits have been found lately at Randolph, near the mouth of Coquilla river, about forty miles north of the famous gold beach. They were discovered in an old beach formation, three hundred feet above high water, and are paying \$50 per day to the hand.

BRITISH COLUMBIA.

From the Colonist of December 1st: The excitement at Quesnelmou, Cariboo, concerning the quartz discoveries on Hixon Creek, is increasing; about fifty men will winter on the creek. Another vein, apparently rich, has been discovered and named the Poorman.

A BATHER at a French watering place has invented a novel galvanic battery. A disc of cork is covered by one of zinc, with a layer of charcoal between. The cork is set afloat, the sea water serves as an excitant of the zinc, and by means of a wire, a current of sufficient power to ring a bell, is conducted to the shore.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

O. W. M. SMITH,.....W. A. EWER,.....A. T. DEWEY.
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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. SAN FRANCISCO, Jan 11th, 1866.

Mr. Thos. J. Hall, is an authorized agent for this journal for the northern counties of this State. Dec. 1, 1866.

Mr. F. E. Frost, is an authorized agent for the PRESS for Amador and Calaveras counties. Dec. 1, 1866.

Mr. L. W. Felton, is an authorized agent for this paper at Portland, Oregon. Dec. 1, 1866.

San Francisco:

Saturday Morning, Dec. 15, 1866.

NOTICES TO CORRESPONDENTS.

S. B., SONORA.—In place of there being much doubt about this contemporaneous existence of man, and some of the larger extinct mammals, the evidences accumulated of late years go strongly to affirm the correctness of such a theory. It is quite evident that the diluvial placers around your city have been deposited at a period when the mammoth and its congeners roamed over the contiguous country, whilst the occasional discovery of charcoal in the same layer of soil, which contains tusks and other animal remains, goes far to render it probable that man existed at the same period. During the last twenty years, the attention of European archaeologists has been largely concentrated in collecting materials, illustrative of the probable social condition of primitive and pre-historic man. It is gratifying to know that these efforts have been attended with an amount of success truly surprising, when it is reflected how unpromising was the original prospect. The presumed, but continually changing boundary line, existing between archaeology and the period of the disappearance of certain extinct animals, has also engaged the attention of many experienced parties, eminent in various branches of geology, such as Owen, Prestwich, Lyell, etc., etc., all of whom consider that man, and several of the animals alluded to as now extinct, lived contemporaneously. The opinion so countenanced has been recently remarkably strengthened by the discovery, at the rock-shelter or semi-cave of La Madelaine, in the South of France, of a fragment of fossil ivory, which had engraved upon it a well-defined figure of the mammoth or *elephas primigenius*. The artist has, in his delineation of the animal, as depicted in an engraving representing the same, which we have seen, not only very clearly and correctly formed the chief outlines and characteristics of the elephantine genus, such as the head, ears, trunk, etc., but also the peculiar eccentric curvature of the tusks appertaining to this extinct genus, and has also marked, in the most unmistakable manner, the long hairy mane, which, it is known, from the frozen carcass found in Russia, that this animal possessed; a fact which indubitably proves that the artist must have been contemporaneous with the mammoth.

This, and similar delineations of various other animals, about the same age, possess a high value as showing the artistic germ in human beings, even prior to a sufficiently marked development of constructive ability, as would be required to design and form an artificial habitation.

Pascal has observed that the "entire succession of man through the whole course of ages, must be regarded as one man always living and incessantly learning." The first man who lifted himself above the beasts of the field, by the discovery that a sharp stone or a snare would subserve the purpose of obtaining food better than his unarmed, unaided limbs, laid the foundation of arts and sciences.

COMMUNICATIONS RECEIVED.—From Doctor Lonsweert, on "The Use of Iron Sponge for the Reduction of Metal Sulphides and Antimonides; from C. H. Aaron, on "The Concentration of Sulphurets;" and from Geo. H. Belden, giving some account of "The Oregon Iron Company's Works at Oswego, Oregon;" all of which will appear next week.

"A MINER" sends us a communication on the "Working of Gravel Cement," but forgets to enclose his real name and address, without which no communication can receive attention.

PROGRESS OF THE RUSSIAN TELEGRAPH.—The officers of the expedition have returned to San Francisco for the winter. Some 2,000 miles of poles have been thus far erected in Asia and America, and exploring parties are still in the field, preparing for a vigorous prosecution of the work in the spring.

"THE WURTZ AMALGAMATION COMPANY"—EXTRAVAGANT IDEAS.

The circular recently issued by the "Wurtz Amalgamation Company" has been read by us with no little surprise. The terms on which the company therein proposes to place the sodium amalgam before the public, seem to us to be singularly absurd. Instead of simply selling the article, the company sells licenses to use it, as well; and the exalted notion of its value which the managers have, is apparent from the following:

"One twentieth interest in their joint stock, or in the mining and milling property, will entitle partiss to the right to use the process during the continuance of the patents."

It is, however, made optional with the party to "purchase the license for such sum, in cash, as may be mutually agreed upon." Some notion of the price which would probably be demanded, can be formed from the first quotation. The amalgam will be sold to licensees only; and will be, for No. 1, \$3, and for No. 2, \$4 per pound.

It is scarcely necessary for us to say, that these terms will never be accepted. Pacific Coast miners "don't do business in that way." Show them an article which will be of use to them, and they will try it, and if satisfactory, buy it; but they are averse to taking out licenses, or paying royalties. "A trade is a trade;" a stipulated price is paid for an article, and "there's an end;" but endless disputes and difficulties are the consequence of an indefinite bargain, such as one must always be where the amount to be paid is dependent on a contingency. Neither would the idea of making over a portion of their interest be agreeable to the miners. The multiplying of partners and dividing of interests, is at best not desirable; and to induce them to do this before it is distinctly proved to them that they will be the gainers, will be impossible.

Then, again, as to the price asked. The coolness with which a one-twentieth interest is demanded in the property of a company which may be willing to make trial of a new invention, the applicability of which, to all cases, is by no means established, is really refreshing. Suppose the property should be worth a million, or so, as in the case of the Hynward mine? How much, "in cash," would this company be willing to commute for? Probably not less than one-twentieth of that amount—say, \$50,000! Truly, a modest price!

We do not wish to under-rate the value of the sodium amalgam. We are satisfied that in many cases it is a most valuable aid in collecting the precious metals. But there are unquestionably some of our ores, in the working of which, its use, so far from being an aid, would be a positive detriment. Each claimowner must determine for himself, by actual experiments, varied and repeated as he may choose, whether he can use it to advantage. All the *ex cathedra* assertions of all the scientific men in creation, will not, alone, satisfy him. The miners on this coast are sufficiently acute to have learned by this time that theory and practice do not always go hand in hand in mining matters. In fact, they have seen so much humbug "science," that they are often unduly distrustful of an innovation, although perhaps when fairly tried it is really found to be an improvement.

The action of this company is only another proof of the extraordinary ignorance which the people of the Atlantic States have always exhibited in regard to the manners and customs, and the "ways of thinking," of the people on this side of the Continent. When, however, we recall to mind the assertion made recently by a Californian in New York, that he could find but a single copy of a San Francisco journal, after searching the reading-rooms of four or five of the principal hotels, this ignorance will not seem so remarkable.

It may be said that the course proposed by the company is the only one by which they could protect themselves; inasmuch as their claim covers, not the amalgam of sodium with mercury—which is not patentable—but the use of that amalgam in the working of ores. But

why should not the sale of a pound of the amalgam include the right to use a pound, and no more? Parties detected in using the article for mining purposes, who could not show that they purchased it of duly accredited agents of the company, could be notified of the infringement, and on its repetition, prosecuted. A properly drawn circular, distributed widely throughout the mining region, would leave no ground for a plea of ignorance of the company's rights and claims. We see scarcely more difficulty in the management of this patent, than in that of any other. However this may be, it is certain that the plan announced in the company's circular will not answer. We speak for their good, as well as for that of the mining community; and it is to be hoped that they will so modify their present absolutely suicidal policy, as to secure, as soon as may be, a firm first footing for what is undoubtedly a valuable discovery.

A SINGULAR FORMATION.

Mr. George Johnson, of Auburn, Placer county, has furnished us with some facts, with regard to a somewhat singular formation which was discovered sometime in September last between Spanish Dry Diggings and Spanish Bar, on the Middle Fork of the American river, El Dorado county. The discovery was made by a party of miners who were engaged in ground sluicing on the hillside some 1,500 feet above the bed of the stream, and consists of a well-defined vein of light talcose slate, running through a country rock of black, silicious clay slate. There is no appearance of quartz in the vein, which is from four to ten miles in width, and very rich in gold, mostly coarse and rough, like quartz gold. It is said that these men have taken out as much as 135 ounces of gold in two weeks, by reducing the vein rock in a hand mortar and working the same in a pan. The company is known by the name of Roush & Co.

Sulphurets are often found in slate rock, rich in gold, where there are no indication whatever of a lode of any kind. It will also be seen, from the notice we have made of the above mentioned discovery in El Dorado county, that it is not always necessary to look for quartz as the matrix of gold. When drifting through rock, for any purpose, any especial change therein should be carefully noticed; and when sulphurets are encountered, there is special reason for expecting to find them containing gold in paying quantities. An assay should always be made to test their value. It is but a few days since a most valuable discovery was made near Placerville, in a lode deposit, over which travel had been continued ever since 1849. The deposit was overlooked, simply because it showed no quartz; it proved, however, to be a decomposed deposit of iron and quartz, which at two or three feet from the surface was exceedingly rich in gold. Miners cannot be too watchful and observant in their labors; they doubtless often miss a fortune from lack of sufficiently close observation. Persons who may be conversant with anything noticeable in this way will confer a public benefit by communicating such information through the public press.

CABINET OF NATURAL CURIOSITIES.—Few, perhaps, are aware that there is such a place as a cabinet of Natural History worth visiting to be found in the city. Passing up Pine street, a few days ago, we accidentally dropped in at Mr. Lorquin's establishment, a few doors above Kearny, and were astonished at the collection he has on hand, in the form of shells, birds, butterflies, insects, and other curiosities too numerous to be given in detail. In addition to matters of scientific interest, there are here found shell-flowers, shell-frames, and many groups of birds for parlor ornaments; also, feathers and birds for ladies' hats, together with a large and rare assortment of ornaments, all tastefully arranged under glass, and put up expressly for the approaching holidays. Such a variety of natural curiosities is seldom seen, and Mr. L. is never happier than in displaying them to his visitors, who are amply repaid for the time passed in his cabinet.

YALE COLLEGE.

We have received a copy of the catalogue of the officers and students of this institution for 1867. The Faculty and instructors comprise 35 Professors and 15 Tutors, in addition to the President, Librarian and Curator. The total number of students is 559, divided among the respective departments, as follows:

Theological.....	30
Law.....	26
Medical.....	31
Philosophy and Arts (Sheffield School).....	122
Academical Department.....	350
Total.....	559

One of the most interesting and important departments connected with this institution is the "Sheffield Scientific School," founded some ten years ago, and since greatly enlarged, mainly by the enlightened beneficence of Mr. J. E. Sheffield, whose name it bears, and whose total donations amount to about \$150,000. The Legislature of Connecticut has also appropriated to this institution the Congressional land donation coming to that State.

This is the only institution in the United States that fully meets the growing demand for scientific instruction, which the rapid development of the material resources of the country is rendering one of our first educational necessities. Measures have recently been taken to organize a Mining Section, in the scientific department, in accordance with a plan sometime since formed. This section will be conducted upon the most approved European models, modified to meet the more practical peculiarities of American ideas. Both the science and practice of mining and metallurgy will be taught in the most thorough manner, and the fullest opportunities will be afforded for laboratory practice, including assaying, chemical analysis, the determination of the character and value of ores and furnace products, and the discrimination of minerals. The lectures on mining and metallurgy will be as full and complete as in any similar institution in Europe. This department is well supplied with models and diagrams of mines, machinery, furnaces, etc., and contains a large and valuable collection of minerals systematically arranged; suites of ores and furnace products, illustrative of mine and furnace work; an extensive collection of fossils, arranged according to geological succession, etc. The full course of mining will include from four to six months' practice in the field, in the study of actual mining operations and smelting works, to be followed by special engineering or chemical studies, as applied to mining and metallurgy. The libraries connected with the college, all of which are available to students in either department, number 77,500 volumes, embracing every class of literature and every branch of science.

THE VALUE OF TOWN SEWAGE.—The economical results obtained from the application of a portion of the Edinburg sewage to some meadow land near by, is summed up in the fact that the proprietor realized the sum of \$862,000 by an outlay of \$22,500, in putting under irrigation about 250 acres of his land with a portion of the sewage of that city. The question of the utilization of the sewage from towns and cities, is at the present time attracting a large share of attention among both practical and scientific men in Europe; and numerous experiments are in progress similar to the one cited above. We presume in that case the land was situated at a lower level than that portion of the city from whence the sewage was obtained; and that it was taken to the land by artificial drains, and not by cartage. When agricultural lands are thus situated, relative to city drainage, there can be no question as to the practicability of utilizing such drainage; but when the conditions are such that drainage must be moved by cartage, and perhaps artificially prepared, the utilization thereof must be a matter of close calculation. There are those, however, who are working heartily at the problem, and express the fullest confidence in being able to show that the drainage of almost any large town may be thus economized. The city of London is one to which much attention is now being given in this direction. The experiment cited above is certainly a most encouraging one, and leaves a large margin for unfavorable conditions.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, occasion may demand, new and important inventions. Also, the list of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

MACHINE FOR TENONING TIMBER.—Hugo Hochholzer and Frank Denver, Virginia City, Nevada, claim the clamping in clumping and turning the timber or log by means of certain devices, as described in their specifications; also the holding and presenting the timber or log to be tenoned, to the cutters, by the means and in the manner therein described.

STEAM PROPELLER FOR BOATS.—Allexey W. Von Schmidt, San Francisco, Cal.: In combination with a propeller pipe, arranged either inside or outside of the vessel, but below the water line, and one or more stationary steam pipes, the ends or nozzles of which are within and point respectively towards the openings of the propeller; I claim one or more valves or cocks arranged so that a column of steam may be projected at pleasure through either nozzle, thus inducing a current of water through the propeller pipe, as and for the purpose shown and described.

QUARTZ CRUSHER.—Monroe L. Batell, New York city, claims an ore crushing machine constructed with two sets of crushing jaws, operated by a single intermediate shaft, substantially as described in his specifications.

QUARTZ REDUCER.—H. H. Scovillo, P. W. Gates and D. R. Fraser, Chicago, Ill., claim a corrugated cylinder, constructed so as to revolve and elevate the quartz or other substances, in combination with one or more hollow cylinders, which are corrugated and perforated circumferentially so as to admit and conduct the quartz or other substances, after they have been elevated into and out of the chambers of such cylinders, having an opening in each end, so that the quartz may be fed in and discharged continuously. They also claim a corrugated cylinder, perforated entirely through its shell, substantially as and for the above described purpose. Also the construction and arrangement of the cylinders so that the substances to be operated upon are free to pass through the circumferences of the cylinders, and be at the same time subjected to a grinding and crushing action between the said cylinders, substantially as described. Also the construction of the corrugated lining of the cylinders, which has axial supports, with caps and channels, substantially as described.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In *every* case it takes to operate through Eastern agents. From our familiarity with the subject of California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE.

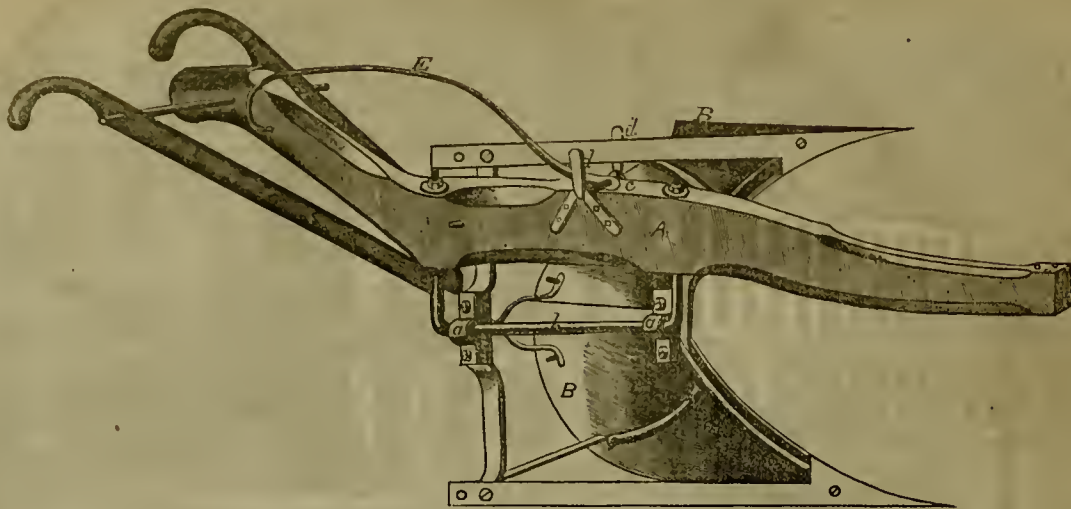
DEWEY & CO.,
Patent Agents, 505 Clay street, San Francisco.

HOSE SEWING BY MACHINERY.—We recently took occasion to call in at the hose-sewing establishment of Mr. S. Howard, 326 Davis street. Mr. H. manufactures all kinds of cloth hose, for hydraulic and other purposes, by the use of machinery. The machines operate with great rapidity and precision. The heaviest material of cotton canvas is converted into hose with all ease. The machine sews three seams at once, with sixteen or twenty-ply twine. Hose thus made will stand the pressure of from 100 to 200 feet fall. Two hundred yards per day can be sewed, at twenty-five cents per yard, making fifty dollars for a day's work. Mr. H. tells us he has two of these machines idle. Why does not some enterprising party purchase one of them, and introduce their working capacities—quick and strong sewing—into some of the newly discovered mining localities, where extensive hydraulic operations are required?

EUREKA, HUMBOLDT COUNTY.—We learn that the effort, by means of an artesian well, to obtain a supply of fresh water at the wharf, in Eureka, for the use of the steam-tug and other vessels, has proved a success. The well is situated at high-water mark, is about 104 feet deep, passing through sand and blue clay. The water stands at the level of the ground at low tide; but at high tide it flows freely from the pipe. Though the tide influences the flow, the water flowing is fresh, and well suited to the purpose desired.

Shipbuilding has been fairly commenced in Eureka. The Messrs. Consins will soon be ready to launch a fine schooner, equal to any in model and workmanship, though not near so large as the bark they launched last year.

MOTT'S PATENT DOUBLE-REVOLVING PLOW.



This highly important invention having been perfected, its superior advantages are now offered to the public. Orders for the same, accompanied with the money, will be promptly filled if addressed to JOHN MOTT, San Francisco, through Wells, Fargo & Co's Express, and a letter through the P. O. at the same time. The two first premiums were awarded to Mr. Mott, at the last Annual

State Fair, for his Double Plow, in competing successfully with single and side hill plows. Price \$55 for the double, and \$28 for the single plow.

Mr. Mott would respectfully inform all persons having inventions difficult to perfect, that he can be consulted at his office, where he has specimens and models of his own inventions, which he will exhibit as proofs of his scientific and mechanical abilities. He will aid those having inventions which they may wish to perfect, so that the same

may be accomplished at the least possible expense and with the greatest dispatch. He has great facilities for examining patent records; and will inform parties, for a moderate compensation, whether or not their inventions are of a patentable nature.

Apply at Fisher & Newman's Law and Land Office, S. W. cor. of Montgomery and Jackson streets, San Francisco, Room No. 3, 2d floor. Office hours from 9 A. M. to 5 P. M. 1t

CHEMICAL ACTION OF WATER IN THE FORMATION OF MINERAL VEINS.—Water doubtless acts a most important part, not only in the formation of mineral veins, but also in the general metamorphism of rocks. Experiments show that by immersing wood in water, heated to a temperature of from 300° to 350°, anthracite coal may be produced. At a lesser degree of temperature, bituminous coal is said to have been produced. In this connection, it may be interesting to call to mind the recent experiments of M. Bertholet, of Paris, to which we alluded in the last issue of the Press, by which that investigator has made the important discovery that at a high temperature various hydrocarbons combine with each other and with free hydrogen, to form higher carbides of hydrogen.

De Lenarmon, by the aid of water, raised from 150° to 350°, has produced samples of most of the minerals composing metallic veins, such as quartz, the carbonates of magnesia and zinc, spathic iron, sulphate of baryta, sulphide of antimony, mispickel, and ruby silver. These illustrations of the metamorphic chemical action of hot water, are most interesting studies, especially when taken in connection with the most undoubted fact, that nearly the whole surface of the earth was, at a comparatively recent period, but a seething cauldron of boiling water, holding in solution all the various salts which enter into mineral combinations; and with which the sedimentary formations, previous to the pliocene period, must have been saturated. The science of Geology, as it progresses, is attaching more and more importance to this great agency in the metamorphism of rocks and the formation of mineral and metalliferous veins.

THE NEW YORK METAL MARKET.—Winterhoff's New York Metal Circular, of November 2d, reports a still unsettled market, with but little demand from the South and West. The then approaching elections, and the general belief that gold would fall heavily, are the reasons assigned for the prevailing apathy.

Tim.—Has declined to 20 3/4 @ 21c. for Straits. Six to eight hundred slabs of Banca sold in small parcels from 23 1/2 @ 24c. gold. English is quoted at 21 1/2 c.

Spelter.—Has fallen to 6 1/4 c. gold, for Silesian, with sales of 125 tons.

Copper.—The demand has nearly ceased since the middle of October. A few forced sales only have been made at 30c. for Lake. One great cause of the decline in demand for copper, is on account of the almost total destruction of the ship-building interest. The production is also smaller than formerly; the stocks moderate and prices lower.

Lead.—The quotation has not varied from 6 3/4 c. gold for ordinary. The best English is quoted at 7 1/2 c. gold.

THE BAKED LOBE, COLORADO, is situated on Kelso mountain, about thirty miles from Central City. It was discovered in 1865. The average assay from the samples was \$838 per ton. Recently, Mr. Watson, who has an interest in the lode, and has been making an effort to raise capital to open it up, selected a ton of the ore, unroasted, which, on smelting, produced 600 pounds of lead, and two tons from the John Brown lead, which, under the same treatment, produced 800 pounds. On cupelling the 1,400 pounds, 25 pounds Troy of pure silver was obtained, which, at \$1.35 per ounce, amounts to \$405. Owing to the imperfect arrangement of the works, which were very hastily erected, the Colorado Journal thinks this is no test of the ore. Mr. Watson is going on to perfect his arrangements in the most careful and elaborate manner, and is satisfied he has the best mine in the Territory.

FRANK LESLIE'S PUBLICATIONS.—John Stratman, the enterprising newsman on Washington street, has placed upon our table his special edition of Frank Leslie's Almanac, for 1867, designed particularly for the Pacific coast. This almanac contains, besides a great number of really fine wood engravings, a large amount of valuable and interesting miscellaneous reading matter, spread out over a small quarto of upwards of sixty pages. Mr. Stratman is special agent for the Pacific coast for all of Frank Leslie's publications. Subscribers supplied here at New York rates.

ENGLISH STEAMER ON THE HUDSON.—There has recently been added to the towing fleet on the Hudson river an English side-wheel steamer—a blockade runner—which was caught during the war, and had been recently sold by the Government to an ice company. This rakish looking vessel is called the Diamond, and is painted black. Her hull is iron, arrow-shape, with raking pipes, horizontal engine, which turns a patent feathered water-wheel. Being unlike any other vessel of the kind on the river, she naturally attracts attention.

City Amusements.

METROPOLITAN.—The Martinetti-Ravel Troupe, commenced the week at this house with the beautiful pantomime of "The Golden Egg," which bids fair to have a long run. It abounds in startling tricks and transformations, and one is well repaid for an evening spent here.

OPERA HOUSE.—At this house, Lady Don has appeared in a variety of pleasing pieces during the week.

ACADEMY OF MUSIC.—The wonderful Troupe of Japanese Jugglers and Acrobats were transferred from the Opera House to this theater on Thursday night, in order to obtain the necessary light for some of their tricks. They have created an intense interest, as the crowded houses during the week will bear witness, and in their acrobatic feats exhibit a skill and training rarely witnessed. Some of the slight-of-hand tricks are very well done.

HOME INDUSTRY.—Joseph Wagner, a "Marysvillian," and an old hunter, finding there was no market for the thousand or two deer-skins, which were the result of his work for the last year or two, has started a glove factory. His gloves *take*, and are likely to supersede the imported. Several hands are now employed in his establishment.

NATURAL CURIOSITIES FOR CHRISTMAS.—At No. 522 Pine street, E. P. LORQUIN, the Naturalist, has on hand a beautiful assortment of glass globes full of Stuffed Birds, Shell and Wax Flowers, besides Feathers, Birds and Butterflies, for ladies' hats, Shells, Sea-weeds, etc. 24v13-qr

Air Pump for Sale.—One of Tate's Double-Action Air Pumps, in prime order, can be had at a bargain, by applying soon at this office, or to JOHN ROACH, mathematical instrument maker, 522 Montgomery street. 21v13-9p

TOWNE & BACON, Print—

Stock Certificates,
Assessment Receipt Books,
Transfer Journals,
Circulars,
Hand Bills,
Cards,
Billheads,

And every kind of Job Work that may be desired.

A NEW ARTICLE OF TAGS FOR GROCERS' USE.

15v12 536 Clay street, opposite Leidesdorff.

OIL! OIL!! OIL!!!

—OUR—
MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUM.

Dell, Cranna & Co.,

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COAL OILS AND LAMP STOCK.

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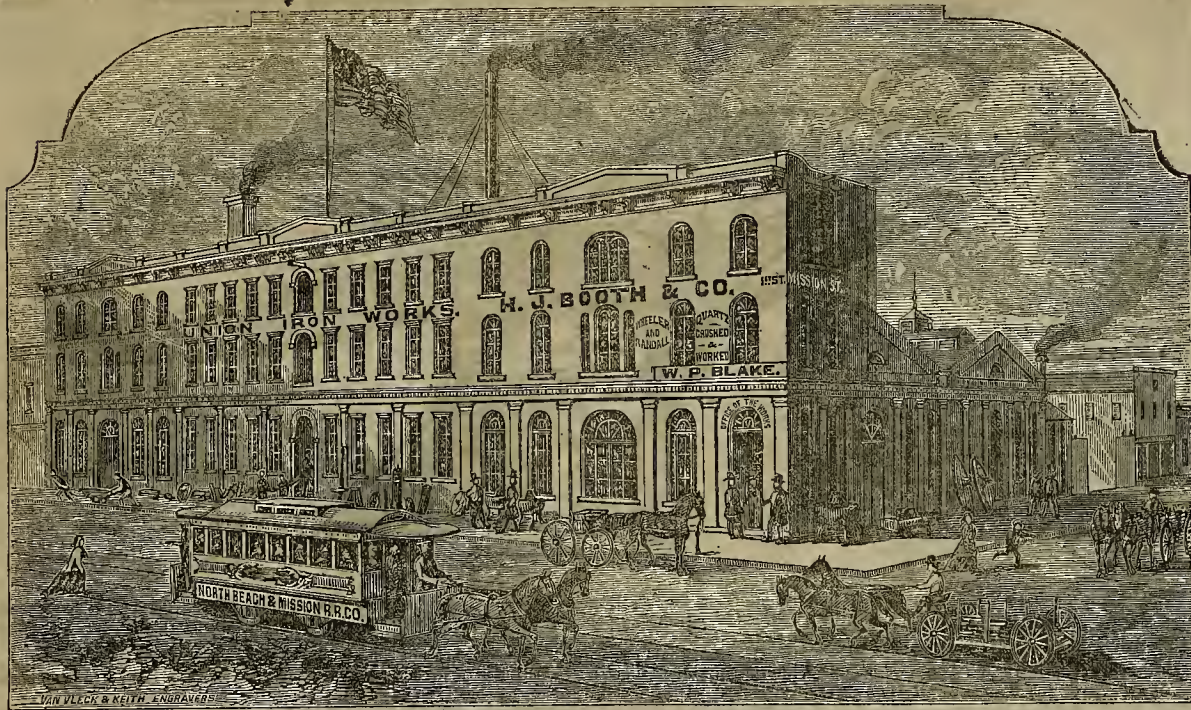
ALLEN'S LUNG BALSAM!

For the Cure of Consumption and all Diseases of the Lungs.

This BALSAM is introduced to the suffering public after its merits for the positive cure of such diseases have been fully tested. The formula from which it is prepared is referred to by the leading medical journals as being equal to any prescription that can be made up, for such diseases, by the medical faculty. The BALSAM is, consequently, recommended by physicians who have become acquainted with its great success. As an expectorant it has no equal. DR. A. L. SCOVILLE, who has, for many years, been known to the public throughout the United States as the inventor of remedies for the lungs, recommends ALLEN'S LUNG BALSAM as surpassing anything that has ever been offered to the public for the cure of Lung Diseases. He has used it in his own family with great success in the case of his sister, who was supposed to be in the last stages of consumption. This lady is now well, and has been permanently cured by Allen's Lung Balsam. 22v13-1in

To Capitalists,

GOLD QUARTZ MINE, SITUATED IN CALAVERAS County, with steam mill fitted up with Amalgamating Pans, etc., FOR SALE. The mine has three main veins, and more than \$20,000 have been spent in opening them and completing the mill. Good wagon roads all the way. Apply to BELLOE FRERES, Bankers, 535 Clay street, San Francisco. 23v13-6m



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hay, Bag, Screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS.—Locomotive, Flue, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Gams, Fans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

U. J. BOOTH. GEO. W. PRESSCOTT. IRVING M. SCOTT.

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H. J. BOOTH & CO.

Machinists and Foundries.

PALMER, KNOX & CO., Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY, STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight;
without excessive friction, and never
gets slack or leaky.

WHEELER & RANDALL'S NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S AMALGAMATOR AND SEPARATOR,

Tyler's Improved Water Wheel,

Giving the greatest power, at lower cost, than any
Wheel in use. There are over 1,500 runnings,
giving universal satisfaction.

KNOX'S AMALGAMATORS, WITH PALMER'S PATENT STEAM CHEST, Superior for working either Gold or Silver Ores.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz
mining and being conversant with all the improvements
either in Mining or Milling, we are prepared to furnish, at
the shortest notice, the most perfect machinery for reduc-
ing ores, or saving either gold or silver. 13v10qy-tf

WILLAMETTE IRON WORKS, PORTLAND, OREGON.

Steam Engines, Boilers, SAW AND CRIST MILLS, MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-First and E streets,
18v13-ly One block north of Couch's Wharf.

UNION IRON WORKS, Sacramento.

WILLIAMS, ROOT & NEILSON, MANUFACTURERS OF STEAM ENGINES, BOILERS, And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired
with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

JOHN WRIGHT, Pick Manufacturer,

No. 229 Fremont street, between Howard and Folsom,
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Has always on hand a general assortment of PICKS for
Quartz and Surface Mining.
Particular attention is called to his RAISED EYE
QUARTZ PICK, which is especially adapted to Quartz Min-
ing, and guaranteed to give good satisfaction. 19v13-y

GEORGE T. PRACY, MACHINE WORKS, Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL And Quartz Machinery, Printing Presses,

—AND— MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

Special attention paid to Repairing. 18v13-ly

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PACIFIC FILE FACTORY

No. 53 Beale Street,
Between Market and Mission streets, San Francisco.

FILES RECUT AND WARRANTED AS GOOD AS NEW,
or no charge. The only establishment in the State.
We also manufacture Reamer and Mower Sections.
8v13-ly DURNING & FISHER, Prop'rs.

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LEWIS COFFEY & RISON, Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the
Pacific Coast owned and conducted by Practical Boiler
Makers. All orders for New Work and the repairing of Old
Work, executed as ordered, and warranted as to quality.
Old Stand, corner of Bush and Market streets, opposite
Oriental Hotel, San Francisco.

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Foundry and Machine Shop,

STOCKTON, CAL.

KEEP, BLAKE & CO.,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons,
House Fronts, Iron Fencing, Balcony Railings, etc.,
at San Francisco prices. Orders solicited
13v13-ly and promptly executed.

Pacific Forge Company.

FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECT-
ed, in this city, on Fourteenth street, near the machine
shop of the San Jose Railroad, a large establishment for the
purpose of forging and working in wrought iron. Our bam-
mer is the largest upon this coast, and we are prepared to
manufacture, at short notice, all kinds of heavy forgings,
car axles, shafts, steamboat cranks, piston-rods, wagon
axles, and other similar work. This is the first general
shop of the kind erected in this State, and we solicit the
patronage of the public. All orders executed at reasonable
rates, and with promptness and satisfaction. 19v13-3m

F. N. BACON.

LINAS STEWART.

BACON & STEWART, PRACTICAL MACHINISTS, No. 51 Beale street, San Francisco.

All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING PRESS work.
All jobs entrusted to us will be attended to with prompt-
ness and on reasonable terms. The patronage of Mechanics
is respectfully solicited. 15v13-ly

HANSOM & CO., Atua Iron Works!

Southeast corner Fremont and Tehama streets,
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Practical Machinists and Iron Founders, MANUFACTURE

STEAM ENGINES, QUARTZ MILL MACHINERY OF ALL KINDS,

SAW MILLS, FLOUR MILLS, Dunbar's Improved Self-Adjusting

PISTON PACKING,

Now so extensively used in the East and in this State. Re-
quires no springs or screws; is always steam-tight; without
excessive friction, and never gets slack or leaky.

HANSOM'S CRUSHER,

The best of the kind now in use in this State or anywhere else.

Wheeler & Randall's New Grinder and Amalgamator,

Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,
Giving greater power at lower cost, than any wheel in use.
Send for one of our circulars, giving full tables.

All Wheels warranted to give the power as set forth, or
the money will be refunded.

Sole makers for this coast of the "Pendergast
White Iron Stamp Shoes and Dies."

None genuine unless obtained from us. Every one war-
ranted.

Patented Machinery of all kinds will be furnished by us
at market prices. Particular attention given to drawings
and specifications of machinery, which will be made to
order. The patronage of the public is respectfully solicited.
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MANUFACTURERS OF

HINCKLEY & CO.,

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STEAM ENGINES,

Quartz, Flour and Saw Mills,

Moore's Grinder and Amalgamator, Brodie's
Improved Crusher, Mining Pumps,
Amalgamators, and all kinds
of Machinery.

Nos. 45, 47 and 49 First street, between Market and Mis-
sion street, San Francisco. 3-47

NEPTUNE IRON WORKS,

Corner of Mission and Fremont Streets,
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MARINE, Locomotive, And all kinds of HIGH PRESSURE Steam Boilers

MADE.

All Boilers guaranteed and
tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.

All kinds of Sheet Iron and
Water Pipe, Coal Oil
Stills, Wrought Iron
Worms, etc., etc.
Manufactured to Order.

Old Boilers Repaired

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TWELVE HOUR SHIFTS.—A correspondent of
the Reese River *Reveille*, very properly re-
commends to the superintendents of mills "a
change in their programme in the roasting de-
partment. He says: "At present, the men in
charge of some of the twenty furnaces are kept
on duty twelve hours at a time. It is needless
to inform millmen that the effects of this long-
shift system are very serious indeed to the
interests of the company—in preventing the
ore from yielding the percentage which under
a more judicious management it certainly
would yield. In cases where the ore is known
to be rich but peculiar, care is necessary, in
order to secure a yield of eighty per cent. of
the fire assay. If the roasters were on duty
only six or eight hours, they could give that
attention to the stirring of the ore which it
really requires; but on twelve-hour shifts,
human nature is not capable of standing the
strain the labor demands, and, as a matter of
course, the ore is not properly roasted, and the
yield of bullion is greatly diminished. The
men at work on the furnaces are not to blame;
the fault lies with the superintendent of the
mill in his expecting or desiring the workmen
to undertake impossibilities."

BRONZED GUN BARRLS.—The *Mechanics
Magazine* says that the movements of our army
during the late war of Rebellion, were several
times disclosed by the gleam of polished gun
barrels. Movements that were intended to be
secret, were thus made known to the Confed-
erates by the sheen of the sun or moon. The
authority alluded to says a gun barrel, even for
sporting purposes, ought never to be polished;
it should be bronzed. Sighting over a pol-
ished tube is both tiresome to the eye and
diverting to the view. No thoroughly educated
sportsman ever uses a polished gun barrel.
Polishing gun barrels is but the remnant of the
old nonsense about "the pomp and circum-
stance of war." Better drop it altogether.
The subject is one of considerable importance.

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal
Castings, Brass Ship Work of all kinds, Spikes, Sheathing
Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and
Gongs of superior tone. All kinds of Cocks and Valves, Hy-
draulic Pipes and Nozzles, and Hose Couplings and Connec-
tions of all sizes and patterns, furnished with dispatch.

PRICES MODERATE. 18v13-ly J. H. WEED.

V. KINGWELL.

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Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of

Marine and Stationary Engines

Quartz Machinery, Saw, Flour and Sugar Mills, Mining
Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—

Wine, Cider, Cotton and Tobacco Presses
of the latest Improved Patterns.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and
Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston-
Packing, requires no springs or screws; is always steam-
tight; without excessive friction, and never gets slack or
leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at
the lowest market rates.

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A "DARK DAY" IN LONDON.—One of those dark days which occasionally occur in the city of London, in consequence of dense fogs and other states of the atmosphere which prevents the heavy coal smoke from rising and being carried away by air currents, occurred on the 18th of October last. The day was so dark as to cause an almost total suspension of business. Navigation on the Thames was impossible; and people stumbled through the streets in a more than midnight darkness, that was not relieved by the light of the gas lamps at noon.

BELLAMBI COAL!

A SUPERIOR ARTICLE OF
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FOR SALE IN QUANTITIES TO SUIT.

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Sacked to order for shipment to the Country.

Apply to

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THE UNDERSIGNED, HAVING FORMED A COPARTNERSHIP this day, would inform the former patrons and the public generally, that they will continue the ASSAY BUSINESS in all of its branches, at the old stand,

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One door west of Montgomery. San Francisco, with the same employees, under the name of Rogers & Brown.

MR. EDWARD WOLLEN, for the last seven years Assayer for Mr. Bell, will have charge of the Assay Department.

The Melting Department will be under the charge of MR. HENRY J. FISHER, for ten years in the United States Mint in this city and Philadelphia, and for the past seven years with Mr. Bell.

We would inform photographers that we are prepared to work their chloride of silver and ashes from their paper clippings.

We have, in connection with our Assay business a Mill, and are prepared to

WORK GOLD AND SILVER ORES,

In quantities from 25 to 500 pounds; also, Assayers' Sweeps.

GEORGE E. ROGERS,

H. W. BROWN,

October 13, 1886. 18v13 qllpnr

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(Near Montgomery),
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For a Dress Suit,
A Business Suit, or
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GO TO QUINCY HALL!

For Shirts, Collars, Drawers, Undershirts, Socks,
Ties, Gloves, or any other FURNISHING GOODS,
GO TO QUINCY HALL!

For Hats, Caps, Trunks, Valises and Carpet Bags,
JUST GO TO QUINCY HALL!

If you want a SUIT MADE TO ORDER, of Foreign or
Domestic Cloth,
ALWAYS GO TO QUINCY HALL!

IT IS THE LARGEST AND CHEAPEST CLOTHING
HOUSE IN SAN FRANCISCO.

All Goods Warranted as Represented.

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QUINCY HALL,

Nos. 545, 547 and 549 Washington street,
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—OF—
Illuminating, Lubricating,

—AND—
PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR,
TANNERS', NEATFOOT, BOILED AND RAW
LINSEED, CASTOR AND CHINA NUT.

—ALSO,—
SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of MILL
OWNERS and Engineers to our superior PARAFFINE OIL,
which we manufacture from the California Petroleum.
This oil will not gum. Machinery thoroughly cleaned and
lubricated with it will not heat and after remaining at rest,
can be started without cleaning out.

A sample can of our Paraffine Oil will be forwarded
on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand.—
4v13-3m19 414 Front street, San Francisco.

DR. O. DUNNING,

Respectfully informs the public that he treats ALL DIS-
EASES the human system is afflicted with, and
can be found at his office.

Rooms Nos. 13 and 14 Government House
Corner Washington and Sansome streets,
18v13-6m SAN FRANCISCO, CAL.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Vane's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

BROWN & BEADLE,

Offer their services to

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PATENT SOLICITORS.

They will make Preliminary Examinations in the Patent Office, with a view to ascertain the Patentability of any invention that may be submitted to them for that purpose; will prepare the necessary papers for those who wish to make Applications for

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—OR FOR—

EXTENSIONS OR REISSUES OF PATENTS

Already granted; will act as Attorneys in presenting Applications at the Patent Office and in managing them to a final issue; will draw up Assignments; will examine into the condition of Rejected Applications when desired to do so, and undertake the prosecution of such as may be considered patentable; and do whatever else is usually done by Patent Solicitors.

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C. E. COLLINS,
No. 603 Montgomery street, San Francisco.
EXCLUSIVE AGENT
—FOR THE—
AMERICAN
WATCH FACTORY.
A large assortment of these
Superior Watches,
In Gold and Silver Cases,
Constantly on hand, and sold at Factory
prices. Also,
ENGLISH AND SWISS WATCHES,
Imported directly from the Manufacturers.
The American Company are now making
VERY FINE WATCHES FOR LADIES.
A large assortment of Gold Chains
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These arms have been preferred by the United States Government, and stand unequalled by any in the world. Revolvers, Army, Navy, Belt and Pocket, Double and Single Action; Repeaters, and vest-pocket Pistols, with copper ammunition; Police Revolvers, a new model, navy size ball, 4 1/2 to 6 inch barrel, 4 1/2 Cal. — an entirely new Arm — having a range and accuracy equal to a rifle, and most perfect Case. All the new models for sale very low. 12v13f

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OF SAN FRANCISCO.

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Capital (Paid up) --- \$1,000,000.

Losses promptly adjusted and paid in United States Gold Coin.

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Agencies at every City and Town on the Pacific Coast.

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RUPTURE!

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Has his studies and manufactures in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself. 8v13-1y11p

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THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphuric acid and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address, F. M. SHAW, San Francisco, care Mining and Scientific Press. 14v13-1m

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Mutual Life Insurance Co.

The Largest Life Insurance Company in the World.

ASSETS..... \$12,000,000.

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IS NOW THE LARGEST AND MOST PROMINENT LIFE Insurance Company in the world, and it has

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The Largest Amount Insured,
The Largest Surplus,

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The Largest Income,

And as it obtains the LARGEST average rate of interest on its investments, and how bad, through its whole history, the LARGEST average expenses, it therefore affords insurance at LESS COST than any other Company.

The surplus premium (dividend) returned to Policy Holders during the current year is SIXTY PER CENT of the premiums paid during the year ending 31st of January, 1886.

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Whole Life Policies, by TEN annual premiums.

Endowment Policies, by a continued annual premium.

Endowment Policies, by a limited annual premium, for FIVE, TEN, FIFTEEN or TWENTY years.

Endowment Policies, made payable at any age stipulated.

ALL POLICIES issued by this Company are either non-forfeitable by their terms, or may be converted into those which are so, at the option of the insured.

This Company offers all the advantages of a CASH or NOTE Company. The assured are not required to give a note in part payment of the premium, but may, if preferred, pay the first four premiums in cash after which their dividends on Annual Premium Life, and Continued Premium Endowment Policies, will, if the past success of the Company is continued, reduce their premiums one-half. When notes are given for Annual Life and Continued Endowment Premiums, no notes will be required after the fourth payment, and the returned surplus—dividends—will be applied as cash to the reduction of the annual premium.

None but Unexceptional Risks Accepted; and only upon ages between Fourteen and Sixty.

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Office, N. W. corner Montgomery and Sacramento streets,
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The Accidental Insurance Company
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ISSUES POLICIES INSURING AGAINST INJURIES OF
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In case death does not result from the injury, the insured receives a weekly compensation as long as he is disabled (not to exceed twenty-six weeks).

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\$5 will buy Policy for \$1,000, with weekly compensation of \$5.

\$10 will buy Policy for \$2,000, with weekly compensation of \$10.

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SHORT TERM POLICIES.

Policies will also be issued for any other amounts within the limits before stated, for periods of one to six months, at rates in terms of the Annual rate, as follows:

1 month, 2-10.	4 months, 5-10.
2 " 3-10.	5 " 6-10.
3 " 4-10.	6 " 7-10.

GENERAL ACCIDENT TICKETS.

This Company also issues Tickets which are sold by many of its Agents at Hotels and Ticket Offices through the country.

They make Insurance for \$6,000, and \$25 per week compensation, against Accidents of every description, Traveling or otherwise; good for one to six days, as required, at TWENTY-FIVE CENTS PER DAY.

They are not simply Travelers' Insurance Tickets which cover only injury or death, the result of an "Accident" to the Public conveyance in which the assured may at the time be traveling; but they are GENERAL ACCIDENT TICKETS.

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Are issued, covering the risks of travel to European and other Ports. Rates varying with the season, and the voyage to be taken. Information can be had of the Company or its Agents.

The Company has a PAID UP CASH CAPITAL OF \$250,000. One hundred thousand dollars deposited with Wm. Barnes, Esq., Superintendent of the Insurance Department of the State of New York, and the remainder securely invested in Stocks in the hands of the Company.

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The rates of Premium are very low.

The Plan is so simple that any one can comprehend all its workings.

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No better or more satisfactory use can be made of so small a sum.

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Office, N. W. corner Montgomery and Sacramento streets,
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 Empire Shuttle, Crank Motion Sewing Machine. It is
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 ily Machine. Notice is called to our new and improved
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EMPIRE SEWING MACHINE COMPANY.
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MINNIE BALLS, BAR LEAD, ETC.,

Are now manufactured at the

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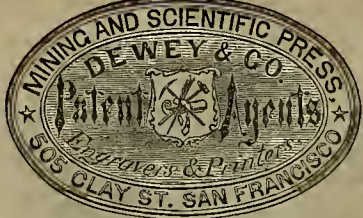
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THROUGH LINE TO NEW YORK,
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LEAVE FOLSOM STREET WHARF, AT 11
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On the 10th, 18th and 30th of each month that has
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 31 days.

When the 10th, 19th and 30th fall on Sunday, they will
 leave on Saturday preceding; when the 12th falls on Sun-
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Steamer leaving San Francisco on the 10th touches at
 Manzanillo. All touch at Acapulco.

Departures of 19th or 30th connect with French Trans-
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Departure of 10th connects with English steamer for
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 America.

Departure of the 30th connects with English steamer for
 uniao, the port of the new mines.

The following Steamships will be dispatched on dates as
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December 10th—MONTANA.....Capt. ———
 Connecting with HENRY CHAUNCEY, Capt. Maury.
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 Connecting with the RISING STAR, Capt. Howe.
 December 30th—GOLDEN AGE.....Capt. W. F. Lapidge,
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Through Tickets for Liverpool by the Inman Line, can be
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ESTABLISHED [] [May, 1880.]
VOLUME FOURTEEN

Mining and Scientific Press,
 COMMENCING JANUARY, 1886.

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TO THE HOUSE.

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WILL GIVE PRACTICAL INSTRUCTIONS IN QUALI-
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Evening Lectures will be delivered every Tuesday, at
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On and after the 14th of February, the Laboratories will
 be open every day, except Sundays, from 8 A. M. to 5 P. M.
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 Application to be made to Mr. C. S. Swenson, or to the
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Mr. Swenson is willing, if desired, to show purchasers
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Pamphlets, with minute instructions, will be presented
 to every purchaser or applicant.

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Are offering a complete assortment of GROCERIES at the
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Goods delivered at any point within the city limits.
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YELLOW DOCK AND IODIDE OF PO-
TASS.

THE BEST BLOOD PURIFIER KNOWN.

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 Mining and Scientific Press Office.

New Mining Advertisements.

Chaparral Hill Gold and Silver Mining Com-
pany.—Location of Works: Albany Flat or Hill District,
 Calaveras County, California.

Notice.—There are delinquent upon the following de-
 scribed stock, on account of assessment levied on the seventh
 day of November, 1885, the several amounts set opposite
 the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Boeglin Mrs. Rosa.....	11	100	\$15.00
Boeglin Wm. Lane.....	47	100	15.00
Brown James.....	44	100	15.00
Child E. F.....	13	10	1.50
Condon N. C.....	5	50	7.50
Connor Mrs. Amelia A.....	55	5	.75
Dudley Wm. L.....	43	100	15.00
DeRuette Ed.....	43	100	15.00
Gay A. C.....	7	10	1.50
Gatty Madeline.....	10	5	.75
Groen U.....	25	200	30.00
Hobbs Theodore.....	37	750	112.50
Hofer Mrs. E.....	9	5	.75
John Clara.....	40	2	.30
Johnson J. F.....	43	100	15.00
Lang Harris.....	39	5	.75
Mayer Wendelin.....	2	2	.30
Morison E. S.....	28	1	.15
McClulloh John.....	45	100	15.00
Pommier A.....	50	100	15.00
Polhemus G. B.....	49	100	15.00
Rochy Robert.....	49	100	15.00
Shepard Joseph.....	4	50	7.50
Shepard J. L. N.....	8	10	1.50
Westfield Louis.....	33	2	.30
Webb Francis.....	54	3	.45
Vosburg William.....	1	2	.30

And in accordance with law, and an order of the Board
 of Trustees, made on the seventh day of November, 1885, so
 many shares of each parcel of said stock as may be neces-
 sary, will be sold at public auction, at the auction rooms of
 Dunean & Co., No. 406 Montgomery street, San Francisco,
 Cal., on the thirty-first day of December, 1886, at the hour of
 one o'clock P. M. of said day, to pay said delinquent assess-
 ment thereon, together with costs of advertising and ex-
 penses of sale.

A. DE SENAILHAC, Secretary.
 Office, 606 Montgomery street, San Francisco. del10

Josephine Copper Mining Company, Gopher
 District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the twenty-eighth day of
 November, 1885, an assessment of one dollar (\$1) per share
 was levied upon the capital stock of said Company, payable
 immediately, in United States gold and silver coin, to
 the Secretary, E. C. McCORM, No. 1 Government House, San
 Francisco, Cal.

Any stock upon which said assessment shall remain un-
 paid on the fifteenth day of January, 1887, shall be deemed
 delinquent, and will be duly advertised for sale at public au-
 tion, and unless payment shall be made before, will be sold
 on Monday, the fourth day of February, 1887, to pay the de-
 linquent assessment, together with costs of advertising and
 expenses of sale. By order of the Board of Trustees,
 E. C. McCORM, Secretary.

Office, No. 1 Government House, corner Sansome and
 Washington streets. del15

Mineral Mountain Gold and Silver Mining
 Company. Location of Works: Carson's Flat or Hill Dis-
 trict, Calaveras County, California.

Notice.—There are delinquent upon the following de-
 scribed stock, on account of assessment levied on the eighth
 day of November, 1885, the several amounts set op-
 posite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Brunner O.....	13	100	\$10.00
Child E. F.....	37	3	.45
Child E. F.....	37	3	.45
Dussol G.....	23	100	10.00
Grettel C. C.....	4	100	10.00
Gatty Madeline.....	10	5	.75
Hofer E.....	33	5	.75
Mathewson T. D.....	42	1238	123.80
Savage A. J.....	7	100	10.00
Stratton J. H.....	15	100	10.00
Westfield Louis.....	12	1	.10
Weiss Wm.....	31	1	.10
Webb Francis.....	35	10	1.00
Wood H.....	19	100	10.00

And in accordance with law, and an order of the Board of
 Trustees, made on the eighth day of November, 1885, so
 many shares of each parcel of said stock as may be neces-
 sary, will be sold at public auction, at the auction rooms of
 Dunean & Co., No. 406 Montgomery street, San Francisco,
 Cal., on the thirty-first day of December, 1886, at the hour
 of 12 o'clock M. of said day, to pay said delinquent assess-
 ment thereon, together with costs of advertising and ex-
 penses of sale.

A. DE SENAILHAC, Secretary.

Office, 606 Montgomery street, San Francisco. del15

Siskiyou Mining Company—Location of Works:
 Middle Fork of Humboldt Creek, in the County of Siski-
 you, State of California.

Notice is hereby given, that at a meeting of the Board of
 Trustees of said Company, held on the tenth day of
 December, 1886, an assessment of five (\$5) dollars per
 share was levied upon the capital stock of said Company,
 payable immediately, in United States gold and silver

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Müller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

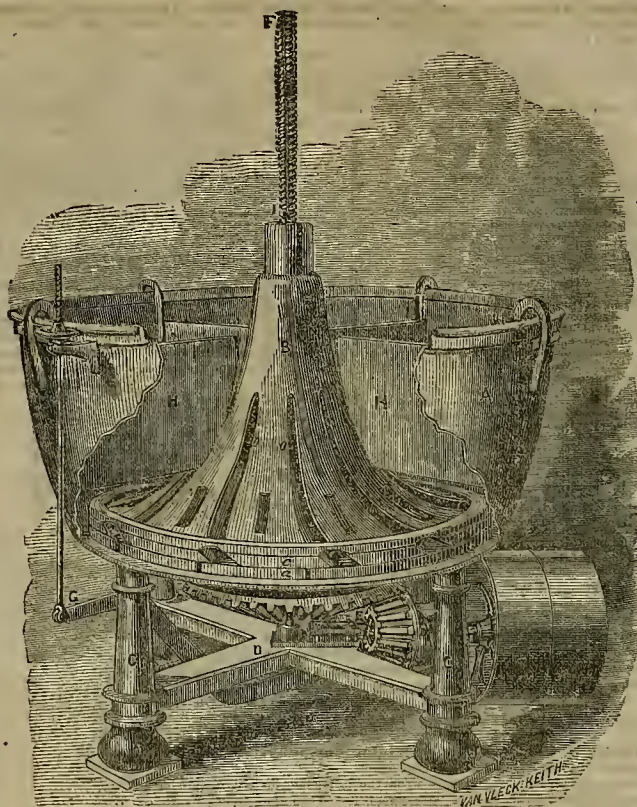
Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been ground. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior." As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works.

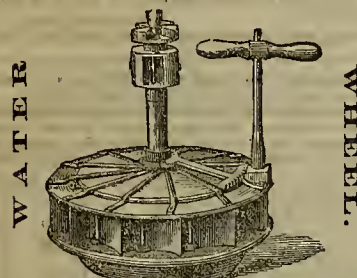
WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in miner's laches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to KNAPP & GRANT, San Francisco.

Leffel's Lever Jacks.

For railroads, cars, or wagons; Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by KNAPP & GRANT, San Francisco, 121 1/2 St.

V. CUSHING, Agent

—FOR THE—

Purchase & Shipping of Machinery
OF ALL KINDS.

Special attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—

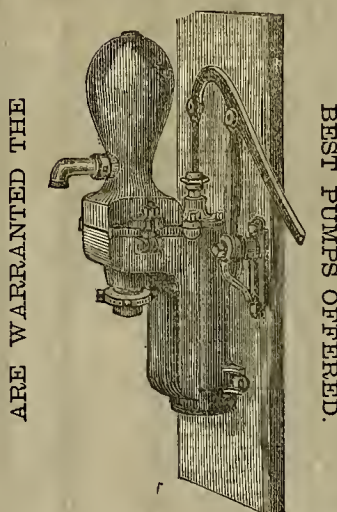
Governor F. F. Lew; Coffey & Risdon, San Fran-
C. T. Meador, Stockton; cisco;
Jacob Underhill & Co., San Geo. K. Guyas, Chief En-
Francisco; gineer of Cal. S. Nav. Co.,
J. W. Stowe, Russell & Erwin, San Francisco.
Manufacturing Company;
Office, No. 120 Front street, San Francisco. 4v12

HUNTER'S IMPROVED CONCENTRATOR.

THE INVENTOR OF THE ABOVE RECENTLY IMPROVED Machine, is now prepared to take contracts for concentrating gold or silver ores on shares, receiving a certain per cent. of the sulphurets as may be agreed upon; and will guarantee twenty per cent. more sulphurets than from any rocker or concentrator built on the Pacific coast, saving at least ninety percent of the sulphurets contained in the ore. The sulphurets, if desired for shipping, will contain less than one per cent. of sand.

Persons who have sulphureted ores will do well to have their sulphurets saved; as the many failures in mining can often be attributed to the waste of sulphurets. For particulars, address ANDREW HUNTER, Inventor, San Francisco. 22v13-3m

The Hansbrow Pumps



All Sizes, for any Purpose.

FOR SALE BY

LOCKE & MONTAGUE.

112 and 114 Battery Street,
SAN FRANCISCO.
16v13-2m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION,

and afford a much larger oxidizing surface to the action of heat and atmosphere. The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,
416 Market Street, San Francisco. 19v12

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077
San Francisco. 5v13f

Hunt's California Pump

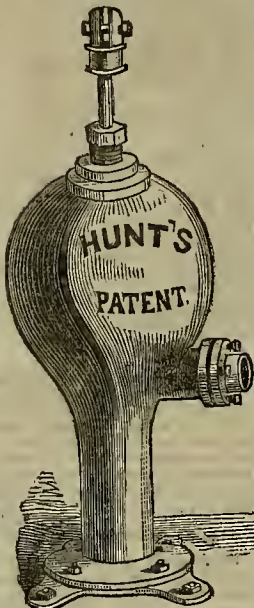
Has all the advantages of any other Pump, is one third cheaper and more durable, will draft water as deep and force as high as any others, is not liable to get out of order, and is easily repaired by any one.

All these Pumps are fitted to work by hand if desired.

These Pumps have given good satisfaction to all who have used them during the last three years. Good judges have examined them to be the cheapest and best Pumps in use.

Manufactured at Hunt's Windmill Factory, 28 Second Street and 110 Jessie Street.

Also, Tread Horse Pumps, Pumping Frames for Irrigating, Saw Frames, Sweep Horse Pumps and Frames, all in one frame, the horse to travel around the frame.



PRICES OF HUNT'S CALIFORNIA PUMPS.

No. 3—3-inch cylinder, 6-inch stroke.....\$30 00
No. 4—3 1/2-inch cylinder, 6-inch stroke..... 35 00
No. 5—4-inch cylinder, 6-inch stroke..... 45 00
No. 6—5-inch cylinder, 8-inch stroke..... 60 00
No. 8—8-inch cylinder, 12-inch stroke..... 90 00
A liberal discount made to the Trade.

For further particulars, send for Circular.
E. O. HUNT,
21v13f 28 Second and 110 Jessie streets, San Francisco.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the greatest number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and sellers for themselves, at the
PACIFIC FOUNDRY,
San Francisco. 1v1

PATENT BUSINESS.

We have lately associated with us in the Patent and Mechanical Department of the Mining and Scientific Press, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner. LEWIS & CO. Patent Solicitors
San Francisco, June, 1866.

Brevities.

NINETY men are employed on the Dry Dock. The grading of the site is nearly finished.

HOD-CARRYING is now being done by steam. See the building going up at the corner of Bush and Sansome streets.

THE DENVER NEWS of Nov. 20th, reports one hundred and six meteors as having been seen at that point during the hours of 12 midnight, and 5.15 of that morning.

THE appreciation of art in San Francisco is so meager that certain artists of undoubted merit are without ordinary comforts, although not perhaps actually starving.

CORN-STALK PAPER is now made extensively in Austria. The Austrian Consul at New York has specimens of more than 300 varieties of paper made from this fiber.

BREASTADT's new painting of Yo Semite is so large that a scaffolding is necessary to enable him to work at the upper part. It is expected to be a grand affair.

THE lectures of Professor Agassiz on the Amazon, drew crowds of New Yorkers. Even that region, so near the equator, was once an ice field. He finds there plenty of proof of the truth of his glacial theory.

A MOSTER CUTTLE FISH, sixteen feet from end to end, is among a collection of curiosities for the Smithsonian Institute, just arrived in our harbor from Russian America. It is preserved in alcohol.

A GORGEOUS cashmere shawl, made for the Queen of Oude just before the Sepoy revolt, will be seen at the Great Exposition in Paris. It is of extraordinary fineness, and was ten years in the making.

THE steamer Great Republic, for the line between San Francisco and China, was launched at Greenpoint, New York, on Nov. 7th. She is the largest wooden steamer ever built in the United States.

THE Indians in Idaho are committing greater depredations than ever. Three or four raids have been made by them, resulting in several deaths and the destruction of a large amount of property.

TWELVE THOUSAND tons of salt are brought every year to San Francisco from Curmen Island, in the Gulf of California. It is 90 per cent. pure chloride of sodium. A conveniently shaped basin furnishes the supply which is constantly renewed by evaporation.

THE new city market on Pine and California streets, between Kearny and Montgomery, will, it is expected, be ready for use by the first of April next. The stalls in that portion devoted to the sale of fish, will be of white California marble; and will have tanks for live fish. The total cost of land and building will be \$250,000.

INTERESTING PETROLEUM DEPOSIT IN KENTUCKY.—There appears to be a tract of country in the neighborhood of Paint Lick Creek, Ky., very much resembling some of the petroleum deposits in Santa Barbara and Tulare counties in this State. Petroleum issues in numerous places from the base of the cliffs and hooks of loose sand. In many places it will collect in such holes as may be dug in the earth. The banks and sandy bottom of Paint Lick Creek are saturated with it for a considerable distance so that when the sand is stirred up, the oil flows off as a shining scum upon the surface of the water. Booms have been placed across the creek, in places where the water is comparatively quiet, and the oil caught thereby, and gathered up and barreled for sale. It collects in some places and forms slimy bogs and muck-heaps. In one place a black reservoir of tar-like oil occupies the center of a gently sloping bog, and is always kept full from an oil spring near its upper limit.

NEW METHOD OF DETERMINING WHETHER A MINE IS RICH.—The following simple rule has been found, by the Montana Post, to be almost infallible; and is cheerfully offered for the benefit of the public:

"We consult the records of the courts. If we discover that a lawsuit is or has been connected with the lode, we have no hesitation in asserting that it is valuable property. We never heard of any conflict about the ownership or discovery of a worthless claim."

This is too true—as well in California and Nevada as in Montana.

PROF. AGASSIZ used 2,500 gallons of alcohol solely in preserving specimens, during ten months of his travels in South America.

TWO THOUSAND MEN are now at work on the Pacific Railroad, on the Truckee River, and near Crystal Peak.

Fossils in New York.—The New York Tribune has the subjoined despatch from Troy, under date of Nov. 9th:

About a month since, during the excavations of a peat bed in Cohoes for the foundation of a new mill, now in the course of erection by the Harmony Manufacturing Company, the jaw-bone of a mastodon was discovered about thirty feet below the surface of the earth. This relic of the antediluvian age is of immense proportions, and has attracted the attention of geologists and students of nature from all parts of the country—letters of inquiry respecting it and personal examination having been made by some of the most distinguished savans of the United States. But yesterday even this wonderful discovery was eclipsed by the excavation of still further fossiliferous remains, which complete nearly the bones or framework of the mastodon. Eighty-five feet below the earth's surface, and about fifty feet below the place of the original discovery, the workmen yesterday came upon the remaining bones, consisting as follows: Two tusks, back-bone, the upper jaw and cranium, a number of the ribs, the hip bones, shoulder blades and the bones of the hind legs. The tusks were each nearly six feet long and about nine inches in diameter. One of them, upon exposing to the light, crumbled to pieces like clay, revealing that substance in appearance and texture. The ribs, of which there were fourteen found, are about four feet long, the largest being four feet nine inches. The upper jaw-bone is four feet nine inches long from the extremity of the mouth to the cranium, and across the forehead measures about three feet. So heavy is it that it was with difficulty four laborers could move the mass. The sockets in which originally were located the eyes of the monster are almost large enough to admit the head of a man. The hip-bone is five feet long, and weighs one hundred pounds; the shoulder blades measure two feet nine inches, and weigh about fifty pounds each. The bone of the leg at the knee-joint measures thirteen inches in diameter. The other fragments found are in harmonious proportion to those already mentioned. The structure will now be united in its several parts by means of wire, and thus a very accurate idea can be formed of the size and weight of the monster to which it belonged. After a separation of countless ages, probably, the several parts will be reunited.

In 1856, five highwaymen robbed S. D. Barstow of \$25,000 on Trinity Mountain. They were sent to State Prison, where they served out their ten years. A few days ago they visited the scene of the robbery, and it is supposed dug up the money then and there buried.

MELLVILLE C. KEITH, M. D.
Homeopathic Physician,
No. 655 Howard Street, between Second and Third,
SAN FRANCISCO.
Devotes special attention to CANCER, PARALYSIS and CHRONIC DISEASES. Consultation free.
1813 6m

Mammoth Quartz Lode, Keyville District, Kern County.
"To all whom it may Concern."
ALL PARTIES negotiating for interests in the above Lode, would do well to examine titles before investing, as the legal title to a considerable portion thereof is vested in the undersigned.
WILLIAM MARSH,
W. L. KENNEDY,
Keyville, Kern County, Oct. 1, 1866. 1613nr5m

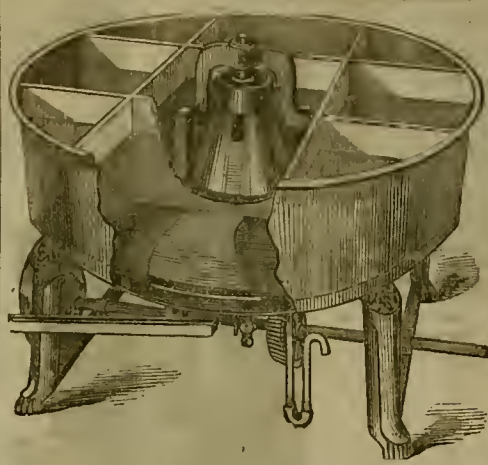
MOUNT DIABLO COAL.
CHEAP FUEL!
Cheaper than the East.
From the Independent Mine, at \$10 per ton.
GREENWOOD & NEWBAUER,
Nos. 207 and 209 Sansome street, between California and Pine.
1413-3m

GLASGOW
IRON AND METAL IMPORTING CO.,
No. 27 Fremont street,
SAN FRANCISCO.

Beg to inform purchasers that they have just received a large stock of Glasgow and Staffordshire best refined
Bar Iron, Boiler Plates, Anvils, Cast Steel, Boiler Tubes, Gas and Water Pipes,
OAS FIXTURES, etc. They offer the same for cash, on liberal terms, at wholesale and retail. The Company have superior facilities for supplying the constant demands of the market.
Country Orders punctually attended to. 1913-q

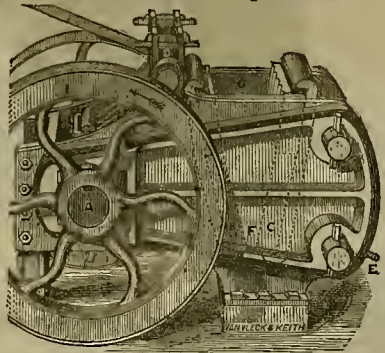
TIME & LABOR SAVED
BY USING
STANDARD SOAP COMPANY'S
WASHING POWDER.
THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for use in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1-lb each, and in wooden boxes of 10-lb bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 1913q

Knox's Improved Patent Amalgamator and Separator,
With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of,
ISRAEL W. KNOX, or
W. A. PALMER, Inventors,
At the Golden State Iron Works, No. 19 First street, San Francisco.

Machinery.
Brodie's Patented Improvements

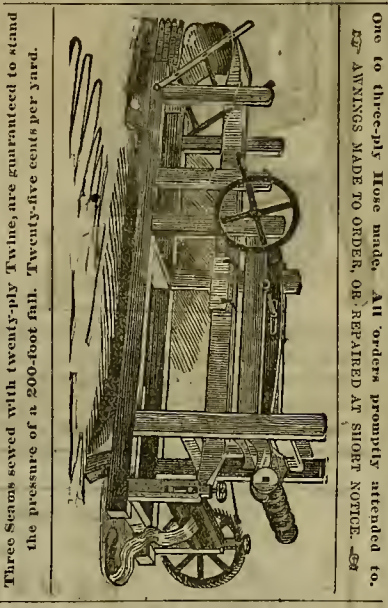


FOR THE TREATMENT OF
Gold and Silver Ores.
BRODIE'S PATENT IMPROVED QUARTZ CRUSHER.
The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:
No. 1—Or 4 inch Crusher, capable of crushing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....\$600
No. 2—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour.....\$850
No. 3—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour.....1,200
EXPLANATION OF THE ABOVE ENGRAVING.
The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.
The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.
The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.
The following testimonials respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:
Rawhide Ranch, Tuolumne Co., Sept. 28, 1866.
JAMES BRODIE, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,
Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.
Those infringing the patent rights to the above Improved Barrel are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.
A drawing, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.
BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations are afforded on application to the subscribers.
A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.
BRODIE & RADCLIFFE,
Express Building, 402 Montgomery street, San Francisco. 12v13tf

Notice to Miners,
Well-Borers and Water Companies.
M. PRAG IS NOW PREPARED TO MANUFACTURE
M. Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for this branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved pattern, for vessels of all classes. Also, Ship Plumbing done.
M. PRAG,
8v13-ly Stove Store, No. 125 Clay street, below Davis.
Such a journal has been needed on the Pacific Coast. The Press fills the bill.—[Reese River Reveille.]

PATENT HYDRAULIC HOSE SEWING
By S. HOWARD.



Three Steam sewed with twenty-ply Twine, are guaranteed to stand the pressure of a 200-foot fall. Twenty-five cents per yard.
One to three-ply Hose made. All orders promptly attended to. ADVANTAGES MADE TO ORDER, OR REPAIRED AT SHORT NOTICE.
No. 326 DAVIS STREET, San Francisco. 22v13-3m

Steam Pumps,
FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.
PICKERING'S GOVERNORS
For Steam Engines.
Giffard's Injectors,
For Feeding Boilers.
STODDART'S IRON WORKS,
114 Beale Street, San Francisco. 23v12-3m

STRONG & CO'S
CELEBRATED UNION PAN!
A fast Grinder and thorough Amalgamator; has double Mullers, Rolling Shoes and reverse action. Millmen and others are respectfully invited to examine this Pan, before purchasing others, as it gives the best satisfaction. Can be seen in operation, daily, at the San Francisco Foundry, Fremont street, near Mission.
Ores, in lots not exceeding 2,000 pounds, tested by
2v13 O. W. STRONG, Assayer.

CAUTION!
NOTICE—TO WHOM IT MAY CONCERN.—THE PUBLIC are hereby notified that a patent was allowed Dec. 27th, 1864, and issued June 27th, 1865, to Professor HENRY WURTZ, for the use of Sodium and Amalgams therein with quicksilver, in the extraction of precious metals from their ores. All persons using said Amalgams, or purchasing or selling Sodium or said Amalgams, for use in the treatment of gold or silver ores, are hereby cautioned that they will be prosecuted to the full extent of the law.
SODIUM OR MAGNETIC AMALGAM.
THE WURTZ AMALGAMATION COMPANY,
OF NEW YORK,
Assignees of letters patent granted to Prof. HENRY WURTZ, the discoverer of the use of Sodium in the amalgamation of gold and silver ores, having established an agency in San Francisco, now offer to the mining community their amalgams, with full directions for their use, on the MOST LIBERAL TERMS. A large supply of the Amalgam, of any required strength, are hereby cautioned that they will be prosecuted to the full extent of the law.
The terms and conditions upon which rights to use the process are obtainable, can be had on application to
WM. SLOSSON,
Agent of the Company, Union Iron Works, corner of First and Mission street, San Francisco. 5v13
FOR SALE!
QUARTZ AND MINING MACHINERY
ONE GARDNER'S THUNDERBOLT CRUSHER, LARGEST size and best quality; is entirely new, with all extras—with a large lot of other Quartz Machinery, including Engines, Boilers, etc.
16v13 COFFEY & RISDON.

Ready for the Steamer "Colorado,"
On the 1st of January, 1867.

TO BE PUBLISHED ON THE DEPARTURE AND ARRIVAL of the Pacific Mail Company's steamer to and from China.
THE CALIFORNIA
CHINA MAIL
—AND—
FLYING DRAGON
NEWSPAPER.
Printed both in the English and Chinese languages, for China, Japan, Australia, Burmah, Siam, Malacca, Singapore, Hindostan, etc., etc.
One of the immediate and most striking results of this mutual intercourse, will manifest itself in the fact that this country will be
EIGHT DAYS
Ahead of Europe in its commercial intercourse with the countries of the East; and ultimately this line of communication must be the preferred road of the silk trade, etc., instead of the Suez route.
The price of the "California China Mail" will be
Twenty-five Cents per number—Annual Subscription, including Supplements, \$10 per Annum.
Advertisements, business notices, etc., in English only, will be charged fifteen cents a line; in CHINESE and ENGLISH, twenty-five cents per line; and one dollar extra for the translation of the first fifty characters; and one cent per character all exceeding fifty.
Copies of THE CHINA MAIL AND FLYING DRAGON may be had at all the offices of the Pacific Mail Steamship Company, in China and Japan.
Office, 525 Clay street, San Francisco. 18v13tf

The Mercantile Gazette
—AND—
PRICES CURRENT.
E. D. WATERS, Proprietor.
Office, Northeast corner Clay and Battery sts.,
SAN FRANCISCO.

The Mercantile Gazette and Prices Current is the only
Commercial Paper
ON THE PACIFIC COAST.
PUBLISHED EVERY STEAMER DAY.
Terms, \$9 per Year, payable in advance.

THE LETTER SHEET PRICES CURRENT
For enclosure in letters, is also published every
STEAMER DAY.
13v13tf

REPORT
—OF THE—
COMMITTEE
—ON—
SEWING MACHINES!

California State Fair, 1866:
"TO THE PRESIDENT OF THE STATE AGRICULTURAL SOCIETY:
Your Committee on Sewing Machines beg leave to report that we have examined the several Sewing Machines on exhibition, (the Grover and Baker, the Wheeler & Wilson, and the Florence,) and find that
FOR GENERAL FAMILY USE
—THE—
"FLORENCE"
—IS—
"THE BEST."
(Signed) J. N. ANDREWS,
THOMAS C. MCNALE,
L. ELKUS.

If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco Office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.
SAMUEL HILL,
General Agent, 111 Montgomery street, San Francisco. 17v13

TRUSSES! TRUSSES!!
Abdominal Supporters!
Shoulder Braces, Etc., Etc.
WE WOULD CALL THE ATTENTION OF DEALERS and others to our complete assortment of these goods, including Bartlett & Burman's Celebrated BALL AND SOCKET REVERSIBLE TRUSS, which is decidedly the best article ever introduced into this market. By a combination of the movement of the ball and socket, and the movable arm, any desired angle may be obtained. Call and examine for yourselves. A liberal discount to the trade.
SHEPARDSON & GATES, Agents,
22v13-3m Corner Sansome and Commercial streets.

Just Published.
THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS of the Nervous System and Reproductive Organs, to be had by addressing and enclosing twenty-five cents, postage stamps, to Secretary PACIFIC MUSEUM OF ANATOMY, North Montgomery street, San Francisco. 18v13-ly
With the last number is an index to the whole volume, most useful and valuable to those who keep files of that paper.—[Shasta Courier.]

GREAT SPRINGS.—There is a spring in the center of the town of Huntsville, Alabama, from which is said to flow a stream of water large enough to float a 30-ton vessel. It is believed to be the largest spring in the world, and is an object of great interest to travelers.

There is said to be another large spring near Florence in the same State, which throws out a body of water, the volume of which has been estimated as high as 17,000 cubic feet per minute.

The Alabama springs may be all that is claimed for them; but there is a *very large* spring, not many days travel this side of Goose Lake, in the northern part of California, which, were it located in a level country, where its waters could collect in a quiet stream, would float quite as large a vessel as that of Huntsville. About sixteen years ago, we had the pleasure of camping for the night by the side of this California spring, and the noise of its waters, as they rushed therefrom and dashed, in their onward course, among the rocks, was like the roaring of a cataract. We took no measurement of their volume, but, judging from recollection, should suppose the discharge could not be less than 15,000 cubic feet per minute, perhaps more. If any of our readers have ever visited that spring, and have examined it with sufficient care to give an intelligent description of it, we should be pleased to hear from them. It certainly forms one of the natural wonders of California. It is probably the outlet of some subterranean river.

COAL OIL PRODUCTS.—The products from the distillation of crude coal oil are as follows: At a temperature of 70° Fah. the product is "chimogene;" at 120°, "rhigoline;" at 170°, "gasoline;" at 250°, "naptha;" at 300°, "heuzine;" at 400°, "light kerosene;" at 500°, "kerosene;" at 600°, "heavy kerosene;" at 700°, solid "paraffine." The mass remaining in the retort after it has stood for some time at 700°, is carbon and earthy matter, similar in its character to coke. This residue usually forms a most excellent filtering material. The refuse of shale from which oil and paraffine has been distilled is said to be the most perfect filtering material known. A bottle of the filthiest water from the Edinburgh (Scotland) sewerage, after being filtered through this material is said to have been submitted to an eminent chemist for analysis, at the same time with another bottle of the purest Crowley water (a very pure aqueduct water used in that city). The chemist was unable to determine which was the aqueduct water.

MARBLE IN TUOLUMNE COUNTY.—An extensive quarry of marble, of a superior quality, is situated near Columbia. It is owned by a San Francisco resident. The editor of the *Citizen* recently visited the works, and thus discourses upon them:

"The mill is situated upon a mountain of marble. A derrick is so arranged that two men can with ease raise from the quarry and place on the ways a block weighing twelve tons. An over-shot wheel, twenty-four feet in diameter, furnishes power to move the saws. From twenty to thirty tons are taken from the quarry and prepared for market every month. One block has been got out and dressed in this mill which weighed 13,000 pounds, but had to be sawn in two to be transported."

TESTINO GRANITE.—In proving the value of granite for building purposes, its solubility is something that is often overlooked; and yet it is a test which it is necessary to take into account. An indifferent granite will often lose 0.25 per cent. of its weight in pure water alone; while in hydrochloric acid it may lose as high as five per cent. Such granite should never be used for building purposes.

THE SUTRO TUNNEL AND THE SPECULATORS. The *Times*, of this city, says, that although the speculators would derive the first benefit from the actual commencement, with good prospects, of the Suto Tunnel, yet the public would be the gainers afterwards, inasmuch as the stock would soon come to be considered a safe, permanent investment, and would have a fixed value. Panics would then be out of the question.

TO MINERS, MILLWRIGHTS AND FARMERS.

We beg leave to call your especial attention to the

EXCELSIOR

Double-Acting Suction and Force Pump.

Hooker's Patent, Aug. 15, 1865.

This Double-Acting Suction and Force Pump, the best in use, is more simply constructed, more durable, and has larger and more direct ports for receiving and discharging water, and is warranted to furnish more water, than any other Pump of equal caliber. It has Puppet Valves, faced with vulcanized rubber, which cannot be wrongly placed in the Pump. The valves can be changed, without disconnecting air-chamber, suction or discharge pipes.

In case of necessity, the Pump can be run at any high rate of speed, and will furnish water proportionately. The Excelsior Pump is equally adapted to use for surface and deep wells or shafts. It can be run by windmill or horse power for irrigating purposes; also by hand or steam power on steamers and ships. For domestic use, no better Pump can be found.

Fig. 3.

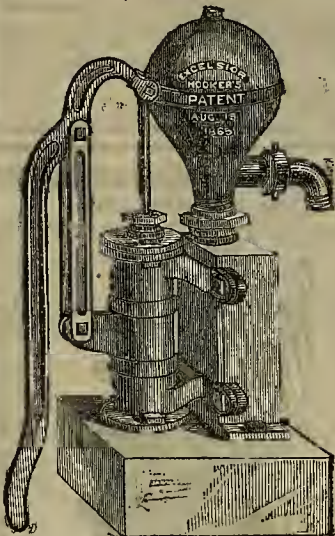
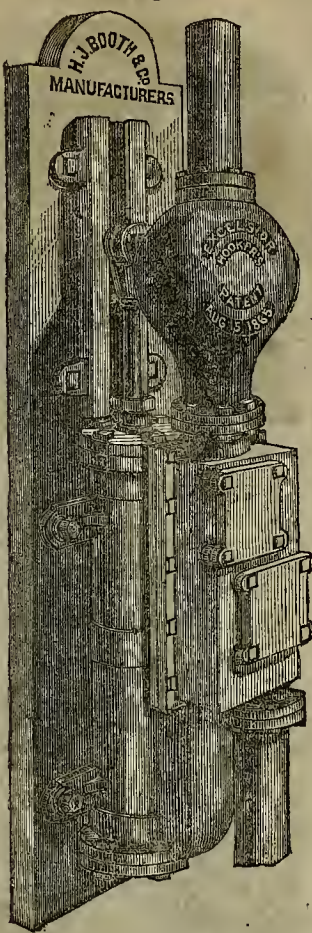


Fig. 3 represents a Hand Pump, which works very easy, and with even power. Fig. 4 is a 6-inch Mining Pump, showing adjustable bonnet of the valve chest.

For Circulars, or further particulars, inquire of or address J. W. BRITTON & CO., Agents, 120 Front street, San Francisco; H. J. BOOTH & CO., Union Iron Works, First street, or CUSHING & CO., Props., San Francisco.

Fig. 4.



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Endorsement by the Miners' State Convention

The following resolution was adopted by the California Miners' State Convention, held at Sacramento, Jan. 17th, 1866:

Resolved, That we regard a mining paper or journal of great importance to the mining interest of California, and we recommend the Mining and Scientific Press, of San Francisco, to the consideration and support of the miners of the Pacific coast.

A VALUABLE AND USEFUL JOURNAL—ESTABLISHED IN 1860.

W. B. EWER.

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PATENT AGENTS,
PUBLISHERS OF THE

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Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should hear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

New Mining Laws of California and Nevada

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & CO., Patent Agents, San Francisco, May 1st, 1866.

THE PRESS is a large, sixteen page paper, and is truly a valuable assistant to the mining interests of the Pacific Coast.—N.Y. County News.

PACIFIC HYGIENIC HOME WATER CURE, at Fountain Farm, near Oakland. Chartered and conducted according to the teachings of the Hydropathic College of New York, by the Pacific Hygienic Home Association (Incorporated), B. J. SMITH, M. D., Consulting Physician; R. S. MACBETH, M. D., Attending Physician; W. G. W. HARFORD, Manager; H. ANDREWS, Business Agent. Office, Baths and Lecture Hall, No. 627 Sacramento street, between Montgomery and Kearny streets. Free Lectures every Tuesday and Friday evenings. 1613-14

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To Owners of Mineral Cabinets.

A miner in Nevada has a lot of choice Crystals, which he desires to dispose of at reasonable rates to parties who may desire to complete their display of minerals. Address the office of the "Mining and Scientific Press." 1613-14

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SAN FRANCISCO, SATURDAY, DECEMBER 22, 1866.

VOLUME XIII.
Number 25.

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MILLER'S ADJUSTABLE TEETH FOR CIRCULAR SAWS.

This is a recent California invention of much promise, for which letters patent were granted at Washington in October last. It has already been mentioned in our journal, but without illustration. This we now give, with the inventor's claims and description, as follows:

"Several plans for attaching teeth to saw plates have been devised and put in use, but with little or no success; for the following reasons; First, all insertable teeth heretofore used require a thicker plate to support them than do the solid teeth. And, secondly, what is saved in labor and files by the use of insertable teeth is absorbed in their purchase. For the above, and other reasons, insertable teeth

the necessary projection; then file them, and the damage is repaired.

Sixth—Should the saw be run in contact with an iron bolt, or like obstruction, the teeth would be turned back in their sockets, and thus protect the plate from injury.

Seventh—These saws remain exactly the same size, and never can get out of round nor balance.

Eighth—These improved teeth are elastic, which insures a perfect fit, and a uniform distension in their sockets under any degree of temperature.

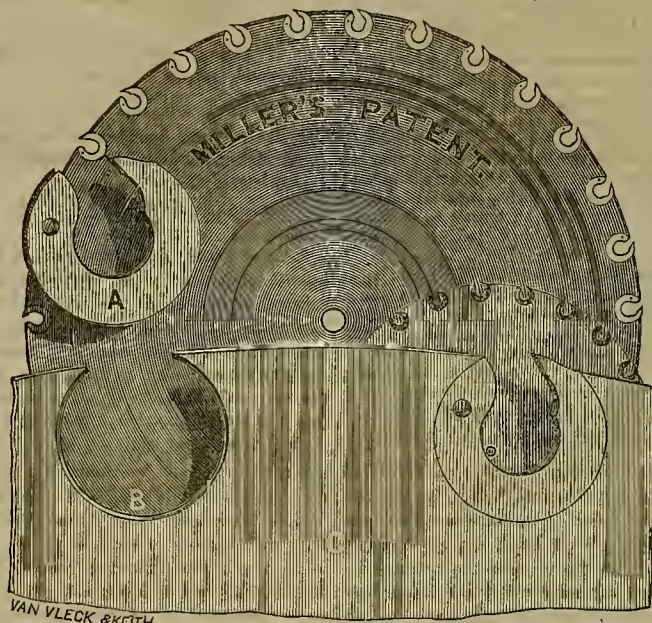
Ninth—The form of these teeth, being round, admits of their being turned in a lathe, and duplicated with perfection. The sawyers have no forging nor fitting to do. An entire set of teeth may be inserted in from five to

a section of saw-plate, with one tooth inserted, and a socket, B, prepared to receive the tooth, A. The teeth are held firmly in position by friction in the V groove. The hole in the butt of the tooth is for the purpose of applying a lever to turn the tooth in the socket.

Two of those improved saws may be seen running, one in Samuel Braanan's mill at Calistoga Springs, California, and one in Capt. W. T. Laywartz's mill, at Port Ludlow, Washington Territory.

These saws will be guaranteed to the purchaser to be as represented in every particular. Works with improved grinding machinery, will be established in San Francisco, without delay, for the purpose of reducing saw plates now in use to the proper thickness, and inserting these adjustable teeth.

For further information in regard to the above, parties can address Joseph Stone, at San Francisco, Cal., who is agent for the Pacific coast, or Warren P. Miller, patentee, at New York city.



MILLER'S ADJUSTABLE TEETH FOR CIRCULAR SAWS.

are not much used except in connection with large saws, and it is asserted by practical saw makers, and not a few millmen and sawyers, that there is no economy in the use of insertable teeth as heretofore made and applied.

The accompanying engraving represents insertable teeth, constructed on an entirely new method—a plan in which is comprised a mechanical arrangement never before known. This principle, as applied to saw teeth, renders them absolutely perfect; nothing better can be produced, nor desired.

Saw teeth constructed on this improved plan possess the following advantages over any and all others:

First—The teeth, being nearly encompassed in the plate, are rendered immeasurably stronger than even solid teeth formed on the plate.

Second—For reason of their great stiffness laterally, these saws may be fully one-fourth less in thickness than solid teeth, and one-third less than other insertable teeth saws.

Third—Saw teeth constructed on this plan have more room for chips, as the throat being round, it is readily discharged; and consequently will take faster feed, will run with fifty per cent. less power, and make ten per cent. more inch boards from a log than other insertable teeth saws.

Fourth—These teeth are self-attaching and adjustable in their sockets. No other saw teeth are.

Fifth—Should the point of one or more of these teeth become broken, by simply turning them forward in their sockets they will attain

tea minutes, depending on the number of teeth and size of the saw.

Tenth—Ninety-five per cent. of the labor and files required to keep a solid tooth saw in order, or fifty per cent. as compared with other insertable teeth saws, will be saved by the use of these adjustable teeth.

Eleventh—Less skill is required to insert these teeth and keep them in order. The periphery of the teeth is a guide for filing them. A tooth, if broken, may be removed and another inserted in twenty seconds, by any person having once witnessed the operation; therefore, the expenso of duplicate saws is avoided.

Twelfth—These teeth cannot, by any means, be thrown out of their sockets; hence the operatives are secure from injury.

Thirteenth—These adjustable teeth will do three times more work before being worn out than any other insertable teeth, for the reason that the teeth remaining in order need not be reduced to accommodate those that may be dull or broken.

Fourteenth—These teeth are like applicable to circular saws of every size and for all purposes; are peculiarly adapted for cutting-off saws, as well as for splitting.

All the above enumerated advantages, and many more, are fully secured by the use of these Circular Self-attaching and Adjustable Teeth.

In the accompanying cut, letter C represents

THE PARIS EXPOSITION.—Professor Blake is now on a tour through the northern mines for the purpose of collecting specimens of minerals for the Great Exposition. He will visit Nevada, Sierra, Plumas, and perhaps other counties. The Finance Committee appointed to take into consideration the amount of money which will be necessary for carrying out the object of the appointment of a State Commissioner, have reported that the sum of \$4,000 will be absolutely necessary to cover the extra cost of transportation, beyond the free services tendered by the several transportation companies, and the storage and packing of the articles to be exhibited; and that the further sum of \$1,000 should be raised for printing and publishing information concerning California and her resources. An appeal is therefore made to the citizens of the State for a fund of \$5,000. The committee conclude their appeal as follows:

"Duty to our own interests and a just regard for the credit of the State demands a prompt contribution from all parts of California, and believing that the importance of the object is well understood by our people, the Committee confidently expect that this appeal will meet a prompt and hearty response.

The Committees solicit donations from all interested, and in addition, will devise means to have our citizens called upon for subscriptions.

(Signed)

J. W. STOW,
JACOB DEETH,
A. WEILL,
I. N. HOAG.

THE MINERALS OF COLORADO.—J. Alden Smith, of Trail Creek, Colorado, has compiled a catalogue of the various mineral species which he has found in that Territory during the three years past. It comprises some 150 species, with the localities where found. It appears in the columns of the *Colorado Journal*, and will furnish the matter for a chapter in the book entitled "The Mines in Colorado," to be published soon by that paper.

THE CONTRA COSTA GAZETTE recently saw seven pears, which together weighed just twenty pounds: They were from the orchard of A. W. Hammitt.

[Reported for the Mining and Scientific Press.]

California Academy of Natural Sciences.

REGULAR MEETING.

MONDAY, December 17, 1866.

President in the chair.

Twelve members present.

Minutes of previous meeting read and approved.

Dr. F. Hansen was elected a resident member.

Messrs. G. O. Whitney and Charles D. Cleveland were proposed for resident membership.

Donations to Cabinet.—Skeleton of a heaver, presented by Captain Pauloff of Kodiak.

Donations to Library.—Ninety-seven volumes and pamphlets upon the various natural sciences, presented by Dr. J. G. Cooper.

Special Committee on Rooms reported that the Academy could obtain suitable accommodation in the new building southeast corner of Pine and Montgomery streets. On motion, the report of the Committee was accepted.

Special Committee on Lectures, Essays, etc., requested further time to report, which was granted.

The thanks of the Academy were tendered to Dr. Cooper for his donation.

Adjourned until Monday, January 7th, 1867, when the Academy will meet in the rooms in McCreary's building, southeast corner of Pine and Montgomery streets.

A NEW BLAST BLOWER.—At the Globe Iron Foundry, Stockton, says the *Independent*, the furnace has a blower of peculiar construction. It has a cylinder of an oblong shape, twenty-four inches in diameter, and four feet long. The inside has two revolving pistons, made like the figure 8, and gives a power of wind at only 180 revolutions per minute, that causes iron to melt in a few minutes. It does not require over one-fourth of the power of the common blower, and at the same time is not liable to get out of repair. The machine was gotten up by the proprietors of the Globe Foundry, and is the only one of the kind on the Pacific coast. As a matter of course, it is needless to state that the proprietors of a foundry, of which Stockton has a right to be proud, are furnishing machinery of every sort in great quantity; also a new plow, which we will mention at another time. The latter, we believe, is the invention of Mr. Blaks and Mr. Baxter.

GASTON'S SCREW GRINDER AND AMALGAMATOR.—This new machine is now in running order at the Pacific Iron Works, First street, where persons interested in mining machinery are invited to witness its operations daily, between the hours of 10 and 11 A. M.

COMMUNICATIONS RECEIVED, and on file for publication: "The Properties of Sodium Amalgam," by C. H. Aaron; "Progress of Metallurgy and Saving of Fuel," by J. Mosbeimer; "Letter from Silver Mountain," by H. E.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Concentration of Sulphurets.

EDITORS PRESS:—In a late number of your paper, you mention a contrivance for saving sulphurets, by means of a belt of canvas passing over rollers, and constituting a so-called revolving sluice, or self-washing blanket. As to the patentability of the invention, I must say I think it doubtful; but I have no doubt of its utility, and have more than once recommended its use. I suggest that the edges of the belt should be bound with stout rope, sewed on after the manner of the bolt-rope of a sail. This, while perfectly flexible, will form sufficient siding for the "sluice," and, at the same time, add greatly to its strength and durability.

The problem of saving sulphurets is, under practical conditions, one of scarcely less difficulty than importance, and is worthy the careful attention of inventors. In a former letter to the Press, I said that the perfect separation of sulphurets, by means of water, can only be attained when the matter operated on is of nearly uniform fineness, the effect of greater specific gravity being counteracted by that of size and shape.

In order to perceive clearly the truth of a principle, it is well to suppose an extreme case. It would be difficult to save fine gold or sulphurets in a current of water which would remove a brick. Gold is nineteen times as heavy as water, while quartz is but, at most, three times as heavy; yet, every miner knows that small, thin scales of gold will be carried away by the water in the sluice, while grains of sand remain.

There are two reasons for this, independently of that peculiar tendency of metals, which is also observed in sulphurets, to repel water from their surfaces, by which they are often enabled to float. These reasons are: Firstly, among bodies of similar form, but of different sizes, the lesser have a larger surface, in proportion to their mass, than the greater; and, secondly, among bodies of the same size or mass, but differing in form, those which approach nearest to the sphere have the least surface, for the sphere is the form which contains the greatest possible quantity with the least possible surface. The solid contents of bodies increase or decrease as the cubes of their similar measurements; but their surfaces as the squares of those measurements.

Sulphurets, though heavier than quartz, are much lighter than gold, consequently, other things being equal, are much more easily washed away; and, being more friable than the quartz, are liable to be reduced finer by crushing or grinding; whilst they are also more liable to break into angular or tabular forms, owing to their crystalline structure. The specific gravities of different sulphurets are—iron pyrites 5; copper pyrites, from 4.1 to 4.3; galena, 7.3 to 7.7; sulphurets of antimony, 4.5; sulphuret of silver, 7.6. The specific gravity of quartz is about 2.3. This difference, already not very great, is still further reduced by the adherence of particles of sulphuret to the grains of quartz. The resistance to the passage through water of bodies, such as those under consideration, is mainly governed by the amount of surface, and in a less degree, by their form; and it matters not, for any present purpose, whether it is the water which moves, and the sulphurets which are desired to stay behind while the sand is carried off, or the sulphurets and sand which move through a body of still water, in their passage to the bottom, which it is desired that the former should reach first. In either case, a great difference of size will, more or less, be found to counteract the desired effect. Two cannon balls, of different sizes, dropped simultaneously from the top of a high tower, and falling through air, will not reach the ground at the same time, Galileo to the contrary notwithstanding. This could only occur in a vacuum.

The first step towards successful invention, is a clear perception of the end to be attained,

and of the obstacles to its attainment. In that class of machines to which rockers, "frames," some varieties of percussion tables, and the "revolving sluice" belong, the property of sulphurets alluded to, of breaking in angular and scale forms, is called to the aid of specific gravity to effect the separation. In them the matter is exposed to the action of a thin sheet of water flowing upon an inclined plane. It is not suspended in the water, but is in contact with the solid surface beneath. Hence results a rolling motion of the particles and the roller, and within certain limits, larger ones being more amenable to the action of the current, are more readily removed than the scales and angular pieces, which tend to cling, as it were, to the bottom. Yet, even here, too, great inequality of size is fatal to a suitable adjustment of the current of water, which, if strong enough to remove the larger grains of sand, will also carry away, in suspension, the smaller particles of sulphuret. Moreover, all these machines work slowly, and some of them require much hand-labor, which, though admissible in Europe or Mexico, is almost fatal to their utility here.

The foregoing considerations point to the necessity for two processes of separation; the first, referring to size, the second to specific gravity. To effect the former, I will suggest two methods, both simple and not very costly. The crushed ore or tailings, wet or dry, may be sifted by means of a revolving cylindrical sieve or bolt, having coarser meshes toward the lower end, so as to discharge the different grades into separate troughs, from which it would pass to suitably adjusted concentrators. To avoid the wear of the fine wire gauze, several concentric sieves may be combined on one axis, each of which would discharge its appropriate grade of material.

Another plan, requiring less expense for machinery, but more for labor, is to allow the tailings to flow through a set of gradually widening boxes; in the first and narrowest of which the coarser matter will accumulate, and the finer in successive boxes, as the force of the current lessens from their increased width. In this way the very finest powder may be saved, and, at suitable periods, the contents of the boxes may be removed, and subjected to concentration for their sulphurets. As to the machine to be used for this purpose, this article is not an advertisement of any one in particular. I leave every man to choose for himself. I may, however, be permitted to say that, so far, I prefer the circular shaking table, with central discharge, of which there are several varieties in the market, all, however, essentially identical with the English "sludge dressing machine," and of which, I will further say, I think their efficiency is more dependent upon a due regard to conditions, than upon minor peculiarities of construction; and, indeed, I think the same may be said of many of the grinding and amalgamating machines in use.

C. H. AARON.

[Written for the Mining and Scientific Press.]

The Portland (Oregon) Iron Works.

MESSRS. EDITORS:—Some account of the "Oregon Iron Company's Works," at Oswego, Oregon, may be thought deserving a place in your columns. W. S. Ladd, Esq., of Portland, is President of the company, and among its shareholders are numbered some of our best business men, as well as many such in San Francisco and New York. The capital stock is \$500,000.

This is the first smelting furnace erected on the Pacific coast, and is situated at Oswego, on the left bank of the Willamette river, eight miles south of Portland, and in the heart of a large iron ore district. The beds of ore which are already prospected, and sufficiently developed to ascertain, approximately, their amount, contain at least two hundred and fifty thousand (250,000) tons, and are from three-fourths of a mile to two miles distant from the furnace. The lands upon which the ore is found in large quantities, is contracted to the company, and is contiguous to the furnace property.

The quality of ore is approximately the same throughout the entire district around the furnace, and is found under the same geological conditions on a lava bedrock, which overlies the basalt, and is itself covered with detritus from the higher basaltic cliffs, and by gravel, clay and sand. The beds (not veins) are irregular in shape and depth; generally inclined at an angle of eight or ten degrees, and seem to have been deposited from solution in the irregular depressions of the lava. No iron has been found except underlain by this lava—a soft and porous rock, easily worked by pick and shovel. The stripping varies from a few inches to ten

and twelve feet; no drifting or timbering will, therefore, be necessary; but the working of the mine will be by open cuts. The greatest thickness yet found in the beds is about two feet; though beds are known of probably not less than thirty feet in close proximity to those most developed.

The analysis by Messrs. Kellogg and Heuston, of San Francisco, shows the ore to be a hydrated sesquioxide; it is as follows:

Sesquioxide of Iron.....	77.66 per cent.
Alumina.....	11.16 "
Insoluble Silica.....	11.08 "
Sulphur and Phosphorus.....	0.10 "

Total.....100.00 per cent.

Specific gravity 4.25, yielding 54.37 per cent. of iron.

The company are building a furnace (nearly completed) thirty-two feet in height, with nine feet diameter of boshes, capable of smelting 3,500 tons of pig iron per annum, with charcoal fuel, and hot blast of two pounds per square inch pressure. The masonry is of basaltic rock, massive, and reflects great credit on its builder, Mr. George D. Wilbur, of Sharon, Connecticut. The arrangement of coal sheds, coal yards, casting house, blast house, dam and flume, and all other requisites, are of the most convenient and substantial character; and the whole establishment will compare most favorably in every respect with the best Connecticut blast furnaces, after which this one has been modeled.

Charcoal will be made on the company's land, and the hills now resound with the chopping and blows of scores of woodmen's axes, felling the large tracts of timber, preparatory for coaling next spring, as early as our wet climate will permit. The cost of the coal will not exceed Eastern prices, and so favorably are the ore beds situated, that \$1.50 per ton will cover the cost of mining and delivering the same at the furnace. Nature has so thoroughly oxydized and disintegrated the ore, and it is so free from admixture with earthy or other foreign ingredients, that little or no washing or roasting will be required to fit it for the furnace. Smelting operations will be commenced by July 1st, 1867.

GEORGE H. BELDEN,

Superintendent Oregon Iron Co.
Portland, Oregon, Nov. 30, '66.

[Written for the Mining and Scientific Press.]

The Use of Iron Sponge for the Reduction of Metallic Sulphides, Phosphides, and Antimonides.

BY DR. LANSZWEERT.

EDITORS PRESS:—In your issue of December 8th, under the heading of "Scientific Miscellany," an item appeared giving credit to M. Chenot for the use of "iron sponge" in the sulphuration and desulphuration of ores. In the American Journal of Mining of November 3d, there is a similar notice extracted from the American Journal of Applied Chemistry. In order to place the credit of the discovery of the use of iron sponge for the above purposes where it belongs, and to enable your readers to render "unto Caesar the things that are Caesar's," I have taken the liberty to send you the following communication, detailing the first discovery and giving a complete description of the above process, which may prove of some practical use to our California metallurgists.

This process was patented on the 29th of January, 1859, in Belgium, by Messrs. De Bronac and Derherypoo. The treatment of metallic sulphides, phosphides and antimonides, is based on the principle of the energetic action of spongy iron in its reactions. Iron sponge is the result of the reduction of iron ores (oxyds, carbonates and hydrates) at a low temperature. The object of the reduction of these ores being the liberation of a gaseous body (oxygen) from a solid body (the iron); the latter being obtained in an extreme finely divided state—chemically, in its atomic state. In this state the iron possesses an avidity for new combinations, which it does not possess in its compact state. On these properties, Messrs. De Bronac and Derherypoo based their process for desulphurization. For a long time compact iron, or iron in small masses, has been used in the treatment of galena and sulphides of antimony as a desulphurizer and as a reducer. But its compactness in that form is a hindrance to the rapidity of its reaction; that action being merely in proportion to its surfaces in contact.

The energetic qualities of iron sponge, *i. e.* of iron in its nascent state, renders it thus more valuable, as a chemical agent; as in the

furnace treatment of galena, for example, they obtain by its use metallic lead at a temperature equal to that necessary for the formation of sulphide of iron; *i. e.* at a temperature inferior to that of the fusion of the gangues. According to its low price, and its extreme facility for division, it should be preferred, generally, in metallurgy. Thus, whenever, in metallurgical operations, it becomes necessary or useful to employ iron, in fragments, sponge iron should be preferred.

The avidity of iron sponge for new combinations, especially its avidity for sulphur, is the basis of this new process, giving the following results:

1. An avoidance of the necessity for preliminary roasting.
2. Rapid extraction and quick reduction, at a low temperature, of some metals from their sulphides.
3. A larger yield obtained than by ordinary processes.
4. A notable economy in the costs of treatment.

For the application of iron sponge to the treatment of metallic sulphides (arsenides, antimonides), reduce them first to powder and mix them with a proper proportion of iron sponge reduced to equal fineness. The quantity of sulphur in the sulphides (arsenic and antimony), must be in chemical proportions with the iron of the iron sponge, so as to form a sulphide of iron. These proportions vary according to the nature and character of ores. To prevent the oxydation of the iron sponge before its reaction with the sulphide (arsenide or antimonide), and to favor the combination of the mixture, the mass is compressed into bricks, which are covered by a layer of charcoal powder, in case they are to be treated in a reverberatory furnace.

The foregoing is applicable in general to all ores susceptible of being modified or reduced by iron. That point being admitted, we will now review the principal ores which may be treated by this process:

LEAD.—In the treatment of galena, the quantity of iron sponge is calculated so as to transform all the sulphur into sulphide of iron. The mixture, compressed into bricks, is treated in a vertical or in a reverberatory furnace. The gangue must not be scorified, and it is useless to increase the temperature above the point necessary for the formation of sulphide of iron. The reduced lead liquefies, leaves its gangues and the sulphide of iron, to run into a vessel prepared for its reception. The grains of metallic lead which may be left in the gangue, are easily obtained by a remelting of the same in the reverberatory furnace, or by pulverization and washing of the same. The desulphurization by iron sponge, is done directly on crude ores; neither oxyds nor sulphates of lead are produced, and consequently no lead fumes arise, and no loss occurs.

ANTIMONY.—What has been given for lead, is applicable for the sulphides of antimony, with the exception that a lesser quantity of iron sponge is used, to avoid the formation of antimonial iron. The result of the first operation gives the greatest part of pure metallic antimony, and a small proportion of sulphide of antimony mixed with sulphide of iron. This sulphide is used in the following operation, which is conducted in observing the same quantities. The difference of density of metallic antimony and its sulphide, facilitates their separation.

ZINC.—The same as galena. The blende is pulverized and mixed with a sufficient quantity of iron sponge, compressed and treated in the same way as calamine. In this operation the sulphur of the blende combines with the iron, and the zinc, liberated, is separated by volatilization.

COPPER.—All the sulphides, whatsoever they are, (copper pyrites, grey copper, black copper, etc.) are reduced to powder, without preliminary roastings. The desulphurization of all the metals contained in these ores, by iron sponge, must be done by the employment of a larger quantity of sponge iron than is necessary to the desulphurization of the copper alone; the excess of iron sponge being required to reduce the other sulphides present. After the fusion, which can be conducted in a vertical or reverberatory furnace, a metallic residue is obtained, composed partially of the copper and the other metals contained in the ore. This product is first crushed, then submitted to a roasting, which is the more easy, as its use is to simply oxydize the iron and copper, and to volatilize other metals (antimony, arsenic, etc.) if they are present. After this roasting, the mixture is treated in a blast or reverberatory furnace, with an excess of silica, to obtain silicate of iron and metallic copper.

Mechanical.

Alleged Important Discoveries in Coke and Steam.

At a late meeting of the "Iron Trade" (an Association of iron-masters) at Wolverhampton, England, Mr. F. W. Gerhard, of the Causeway Iron Works, of Wolverhampton, exhibited specimens of coke, produced by a new process, and entirely free from sulphur. Mr. G. asserts that by his process he can perfectly desulphurize large and small coal, at a cost not to exceed forty cents per ton! Ironstone can also be desulphurized by the same process; [and if ironstone, why not all kinds of ores?] He further states that ordinary ironstone, thus desulphurized and smelted with pure coke of his preparation, is equal to hematite iron; which owes its great value to the fact that it contains but a trace of sulphur, and can therefore be readily converted, by the Bessemer process, directly into steel, which result cannot be obtained from iron ores containing sulphur.

As a further evidence of the value of his process over that ordinarily employed, for producing coke for iron furnaces, Mr. Gerhard stated that out of thirty or forty samples, which he had obtained from different parts of Great Britain, not one of them proved to be free from sulphur, when submitted to the same test which failed to show the presence of that substance in coke of his manufacture—consequently such coke could not make as good iron as his. As sulphur is the greatest hindrance in the way of producing good iron, he holds that a most important result is thus placed within the reach of every iron-master who will adopt this simple and inexpensive method of desulphurization, previous to smelting, which he has discovered.

Mr. Gerhard is a metallurgist, well known to the Association referred to, and a member thereof. He is represented to have been engaged, for upwards of two years, in experimenting on South Staffordshire iron and its production, with the view to perfecting his discovery. The report of this meeting is given in the *Birmingham Journal*, the editor of which communicates the facts as presented to the meeting, leaving it to practical men to judge of their accuracy and the worth of the discovery. The *modus operandi* of the process is not given. If the discovery is a genuine one, and one which can be economically applied in California, it may have a special value in this State; as most of the California coals contain a large per centage of sulphur, which renders them unsuitable for metallurgical purposes, as they come from the mine.

DISCOVERY IN STEAM.

Mr. Gerhard, however, does not stop here. He believes he has also discovered a method whereby any sea-going vessel may dispense with fully one-half the amount of coal usually employed. He would use the same kind of coal as now employed; but he claims that by what he terms another "simple and inexpensive" process, he can obtain the same power out of five tons of coal, for instance, as is now derived from ten tons. His invention, he says, is applicable to every description of steam engine now in use, and is especially adapted to marine boilers. The *Journal* says that Mr. Gerhard is neither commercially manufacturing the coke he exhibited, nor has he patented the desulphurizing process by which it is produced, although he has drawn up the provisional specification; whilst the invention he claims to have found out for so greatly diminishing the fuel requirements of steam vessels is equally unpatented. Mr. Gerhard had a portable apparatus by which he exhibited to the Association this last mentioned invention in operation. The editor of the *Journal* aforesaid, adds that "The importance of any practicable method of so vastly economizing fuel in the generation of steam it would be impossible to over-rate; but whether or not Mr. Gerhard has invented such a method, we leave others to decide. We simply draw attention to the claims that he sets up."

THE LARGEST RAILROAD DEPOT in the world has recently been built at Cleveland, Ohio. It is 603 feet in length by 180 in breadth, and covers an area of more than two and a half acres. The building is one of considerable architectural beauty. The front is ornamented with marble busts of Lincoln, Grant, and other men of note.

REPAIRING CRACKED CIRCULAR SAWS.—Mr.

Wm. D. Rinehart, of West Manchester, Pa., communicates to the *Scientific American* the following plan for mending circular saws: First drill at the end of the crack a small hole one-tenth of an inch diameter; if the crack is more than three inches in length, then drill two holes two inches from the edge of the saw, and one-tenth of an inch from the crack, exactly opposite each other; then countersink the holes on both sides of the saw; cut through from one hole to the other with a thin file, the thickness of the file being less than the diameter of the holes; fit a piece of iron into a hole long enough to rivet on each side of the saw, filling the countersinks; then file even with the surface of the saw. A crack may be stopped in any kind of metal by drilling a hole at the end of the crack. The rivet proposed for the saw prevents the saw shearing or leaving a straight line. Square holes or dovetails would insure the saw cracking farther, as the strain on the saw will start cracks in the angles of the openings.

SPECIAL STEAM MACHINERY appears to be coming into very general use—in which the steam engine forms an intrinsic part, and not a mere adjunct or motor of the machine which it drives. For many purposes it appears to be much preferable to the intermediate use of power from shafting. Of this class of machines we may especially instance the steam hammer. Wood-splitting machines are also always driven in this manner. Several designs have been devised for the direct application of steam in this manner, to stamps for crushing quartz, wherein much economy in the use of power is claimed. The *American Artisan*, of July 4th last, gave an illustrated description of such a mill, which, with the engine, occupied a horizontal area of only six square feet; yet possessed the capacity of reducing thirty tons of quartz each twenty-four hours.

J. F. DUNLAP's new ball and cartridge has found favor with the Government. An order has been issued for the manufacture of a large quantity. It is said that when tested on even terms with the Enfield ball, it penetrated fourteen inches of solid plank, while the Enfield penetrated only seven inches. It ignites simultaneously in front, center and rear. It is pointed at both ends, does not whiz, and cannot strike sidewise.

A NEW ALLOY FOR BEARING-METAL.—Mr. W. C. Cambridge, of Bristol, England, has taken out a patent for the United Kingdom, for the composition of a new alloy, designed to take the place of Babbitt metal. This alloy appears to consist of iron and tin, and is made as follows: Take iron turnings 30 lbs., hurs or punchings of boiler plate 10 lbs., tin plate scraps 10 lbs., pure block tin 1 lb., place the same in a crucible with 2 lbs. common salt, 1½ lbs. fine white sand, and 1 lb. charcoal dust—melt and run into moulds of the required form.

CORROSION OF IRON—STEAM BOILERS.—Some corrosive waters not only waste and indent the surface of the boilers internally, but also destroy the vitality of the metal, so that the edge of the overlap may be cut away with a few slight blows with the hammer, and the rivet heads knocked off with a hand-chisel only, and easily pulverized. This fact shows the importance of carefully and frequently testing corroded rivet heads with a hammer.

A MAMMOTH CASTING was lately made at the Charlestown, Mass., Navy Yard; it was about one-half of the bed of a planer, the whole machine destined to weigh about 195 tons. The section cast will weigh thirty-nine tons when cleaned. The iron was from the machinery of the old United States steamer *Richmond*. Two months were required to make the mold, forty-one tons of metal were used, and eight days elapsed before this, the largest casting ever made in New England, became cool.

NORWEGIAN snow-shoes are in general use in Meadow Lake. They are from eight to twelve feet in length.

Scientific Miscellany.

NEW KNIFE FOR MEDICAL PURPOSES.—A French physician has taken advantage of the well known electrical characteristics of platinum to construct from it a most valuable knife for medical purposes, the use and philosophy of which may be stated as follows: The blade of the knife consists of platinum, and is placed within the circuit of a galvanic battery, while the handle is insulated. Platinum, it is well known, may, by aid of galvanism, be heated to any required temperature. Under ordinary circumstances, this metal is not suited for cutting, but it appears to be highly efficient for such purposes when a sufficiently powerful electric current is passing through it. The effect thus produced depends on the temperature to which the blade is raised, which temperature is constantly within the control of the operator. When the temperature is raised to 1,100°, or dark redness, the cut made by the knife is bloodless—the knife producing cauterization as it is passed through the flesh. On the contrary, when the blade is raised to 2,700°, or red whiteness, it divides the tissues with extraordinary facility, while the blood flows freely. This latter phenomenon is caused by the liquids being placed in a spheroidal state, and, therefore, out of contact with the blade; hence, no cauterization can take place, and the blood must flow. The platinum blade, at this temperature, is just at the point of melting; which result would be accomplished by a slight increase in the force of the electric current. This is another beautiful instance of the application of science to useful purposes.

THE POLES IN MAGNETS.—Capt. Selwin, of the English Navy, has recently published a paper on "Some new arrangements of the Poles in Magnets," in which he said one phenomenon connected with magnets was, that there might be, and often was, a succession of north and south poles in a bar magnet. He described an experiment he had made with regard to the subject. A steel bar having been prepared, and hardened as usual, it was magnetized by any ordinary means—either by touch or an electric current. Then either at the center or at any other point of the bar, where it was desired that the two poles should eventually be in juxtaposition, and even in more than one place, the temper was taken out of the bar by a rod of heated metal, or by a blow-pipe, this operation separating the two magnets, though the needles were still respectively north and south.

INCREASE OF RAIN-FALL AFTER AN ELECTRIC DISCHARGE.—The idea is generally entertained, that the increase of the rain-fall which immediately follows an electrical discharge is the result of such discharge. Electricians, however, say that the electric discharge is the result and not the cause of the sudden condensation of the cloud into the rain drop; and that the condensation is due to the cloud coming into contact with an extremely cold and dry current of air.

THALLIUM GLASS.—M. Lamy finds that thallium is preferable to lead to replace potash. It communicates a yellow color to glass just as sodium gives a green coloration. Thallium glass, it is said, is denser and more refractive than potash glass, and the author believes such glass will be specially applicable for some certain optical purposes, and also for the manufacture of some artificial jewels. The best specimen was obtained within the following proportions:

Sand.....	300
Thallium.....	200
Pure carbonate of thallium.....	333

The mixture fused easily, and formed a perfect homogeneous mass, which had an agreeable and brilliant yellow tint. The density was 4.235, and the refraction index for the yellow ray was 1.71.

SPECIFIC GRAVITY OF MERCURY.—Dr. Bal-four Stewart has recently made at the Kew Observatory, England, some determinations of the specific gravity of mercury. At 60° F., he found it to be 13.569, as compared with water at the same temperature.

A CURIOUS FACT (?).—An Australian paper states as a fact, a curious circumstance said to be connected with deep mining, that from the hours of twelve at night till three in the morning the disturbing influences in the bowels of the earth manifest increased activity. At that time it is observed by miners that water falls from places where none is observable during the day. The volume of water is perceptibly increased, the atmosphere is charged with gases which often prevent the lights from burning, and small particles of earth and rock are observed to fall from the tops of the drives. Whether this phenomenon is to be attributed to the diurnal motion of the earth or other causes, it is worthy the attention of the curious. Have any of our California and Nevada miners noticed any such phenomena? If any one has done so, and if any one has watched carefully and failed to notice such phenomena, they will confer a favor by communicating to us the result of their observations.

A SYSTEM of telegraphing is now in operation in France, by which exact copies of the original messages are produced at the terminus of the lines, solely by mechanical means. The telegram is written on paper coated with a lead-colored, non-conducting surface. The ink employed changes every point touched by it to the opposite electrical character. Two pendulums at either end of the circuit swing in unison; the upper end of each is divided into many points. By this contrivance, the message being passed over these at one end, a current to correspond with the writing is sent, and a *fac simile* copy, on prepared paper held to the vibrating pendulum, is produced at the other extremity.

IMPROVEMENT IN ELECTRO-PLATING.—A Frenchman suggests an apparently successful plan for electro-plating, so as to secure at once a brilliant surface. He says that by adding to the silver and potassium bath a very small quantity of sulphuret of carbon, the deposit takes place with a perfect evenness, and results in the production of a highly brilliant surface on the object plated.

THE ties on the Union Pacific Railroad are of cotton wood, hnettized. A boiler one hundred feet in length and five feet in diameter, is filled with the ties and the air exhausted. A solution of chloride of zinc is then injected, which fills the pores of the wood, and renders it comparatively indestructible.

DANGER ATTENDANT ON THE PREPARATION OF POTASSIUM-ETHYL AND POTASSIUM-METHYL. In the preparation of the compounds of sodium with ethyl or methyl there is comparatively little to fear—at any rate, if moderate quantities only be prepared at one operation. But there is the greatest danger in preparing the potassium compounds. When the replacement of the zinc by the alkali metal proceeds briskly, there is a considerable rise of temperature both in the case of sodium and potassium. From the low temperature at which potassium fuses, it very easily happens that the potassium fuses, and when once this occurs, a most tremendous explosion is the immediate result.

RESPIRATION.—Two persons shut up in a room which measures ten feet square and ten feet high, will pass all its aerial contents through their lungs in twenty-four hours. One person inhales about twenty cubic feet of air each hour.

THE GOLD MEDAL of the London Society of Arts has this year been awarded to the venerable and indefatigable Professor Faraday, "for his discoveries of electricity, magnetism and chemistry, which in their application to the industries of the world, have so largely promoted arts, manufactures and commerce."

THE moisture deposited on the windows of the court-room of one of our Western cities was collected and analyzed, when it was found to be putrefying and decolorized permanganate of potassa, more deleterious to health than that obtained from deep mines and similar places.

AN Auckland journal speaks of a valuable discovery of bismuth in New Zealand. It is associated with copper, and by a novel process the two metals are economically separated.

WEEKLY STOCK CIRCULAR

Of Associated Brokers of the S. F. Stock and Exchange Board

SAN FRANCISCO, SATURDAY MORNING,
December 22, 1886.

MONEY MARKET.

During a period of more than a month past money has been quite plentiful and easy to the borrower, good mercantile paper being freely negotiated at 1 1/4 per cent. per month, and lately first-class securities were discounted at 1 1/4 per cent.; the rate, however, has been for the most part 1 1/4 per cent. per month. This condition of ease prevailed to a greater extent for mercantile requirements, and this class of names had the preference in the market and carried the bulk of the transactions. Real Estate wants are not so pressing at this season of the year, and are readily obtainable at reasonable rates. Outside loans and advances upon mining shares command higher rates—1 1/2 to 2 1/4 per cent.

The demands for Duties at this port from January 1st to December 19th, 1886, amounted to \$7,032,291.42, and the Internal Revenue collections in this city during the months of September and October aggregated \$1,585,994.16.

Transactions in Legal Tender Notes have been very limited during the past week, and the interruption of telegraphic communication with the East kept them at a very uniform price—72c buying, 72 1/2c selling.

CITY STOCKS.

This class of stocks have been inactive for some time past, and for the week just closed the record of sales is meager. San Francisco Gas Co. sold at \$63.75 @ 65; Spring Valley Water at \$60; and Steam Navigation at 64 1/2 per cent. Under the dissatisfaction now existing among local Insurance Companies in regard to the low rates charged by some in violation of the rules established by the Board of Underwriters, shares have been called in the Stock Exchange at a slight recession from former prices without effecting any sales.

MINING SHARE MARKET.

The slight inactivity apparent in the Share Market at the close of last week, has prevailed to some degree throughout the present, most shares, however, maintaining uniform prices.

The Suto Tunnel is now commanding the attention of all Constock claims, and in reference to this important work we have been allowed to extract the following from the forthcoming annual report of the President of the Empire Mill and Mining Company. He says: "No time should be lost in urging the completion of the work, as experience has shown that with the increased depth which our mines will have reached before the tunnel can possibly be completed, the expense of mining through our independent shafts will have become so large as to consume all, and more than all, the product. This result is therefore inevitable, that the Suto Tunnel, or some similar work, must be constructed, or the mines will have to be abandoned at a depth of 2,000 feet. Were that work constructed to-day, the expense to the companies mining through it under the terms of the contract already entered into, would not be more than fifty per cent. on present cost, and at the depth at which that tunnel will strike the ledge the difference would be immensely greater; perhaps not more than ten or twenty per cent. on the cost of working through an independent shaft. The total expense of constructing the Suto Tunnel is estimated at \$2,000,000. Eastern capitalists, I learn, have signified their willingness to advance most of the means necessary for its completion, only requiring that the thirty or thirty-five companies on the ledge shall give an earnest of their own faith and confidence in its success by becoming stockholders with them to the comparatively small amount of \$300,000."

HALE & NORCROSS.—No sales during the week; \$2,300 @ 2,500 bid per foot. The winze from the seventh level, on the west vein, is now down over thirty feet, and it is said the ore continues to be good.

SAVAGE—opened at \$2,060, receded to \$1,975, then sold at \$1,980, and closed yesterday at \$1,950. On the seventh station, breasting is discontinued for the present, as more ore is obtained from the upper levels of the mine than is now required. The drift from the Curtis shaft is connected with Winze No. 3, and is said to be in excellent ore. This winze, with the exception of a few feet at the top, carried a good quality of ore the entire depth. The seventh station drift is rapidly progressing to connect with the drift from the Curtis shaft, and is said to be in good ore. During the week ending December 15th the average yield of ore extracted was \$40.36 per ton.

YELLOW JACKET—attracted considerable attention, opening at \$1,200, b. 30, receding to \$1,115,

gradually advancing to \$1,270, falling to \$1,240, and closing at \$1,262.50. No report from the company's office in Virginia City.

CROWN POINT—was dealt in at \$1,150, then at \$1,100, advancing to \$1,175, and at the close sold at \$1,210. The east drift from the 400-foot level is in 250 feet, and it is said shows some metal in the large body of quartz lately encountered. During the week ending December 14th, 891 tons of ore were raised from the mine; previous week, 990 tons.

GOULD & CURRY—sold early in the week at \$730, receded to \$690, advanced to \$700, and closed yesterday at \$690. In the second station, north drift, it is said that very good indications of ore have lately been found. Work will soon be resumed on the shaft, which had been suspended for about six months. For want of a quorum, the annual meeting was adjourned to next Thursday, the 27th instant.

CHOLLAR-POTOSI—received more than usual attention, opening at \$229.50, gradually declining to \$210 @ 209, and closing at \$215. Nothing new from the mine. About 1,000 tons of ore have been sent to custom mills last week.

EMPIRE MILL—varied little from \$188 to \$192.50, closing yesterday at \$215. During the fiscal year ending December 1st, the receipts of this company amounted to \$486,778.78, and the disbursements for expenses, dividends, etc., to \$454,322.51, leaving a balance of \$32,456.27. The net profits of the year are stated at \$121,129, and upwards of 22,000 tons of ore were extracted from the mine during the fiscal term. An average of 80 tons of ore per day is taken from the 1st, 2d and 3d levels, and it is estimated that from 8,000 to 10,000 tons of ore are now in sight, which, with the ore mined, shows an available supply for six months to come, the reduction capacity of the company's works being about 2,000 tons per month. At the annual meeting on the 19th, the old Board of Trustees was re-elected. They passed a resolution to make a liberal subscription towards that desirable work—the Suto Tunnel.

The disbursements of this company during the fiscal year include the following items:

Due last annual report.....	\$ 14,329.17
Paid in dividends.....	32,440.00
For mining 3,900 tons of ore on hands.....	15,043.00
Imperial-Empire Shaft—as assets.....	25,941.11
Excess receipts—balance as above.....	32,456.27
Net earnings during the year.....	\$121,129.55

OPHIR—receded from \$196 to \$179, and closed yesterday at \$164. At the annual meeting of stock holders, on the 18th instant, the following Board of Trustees was elected: Edwin Martin, President; Wm. H. Osgood, Vice President; Wm. B. Johnston, Josse Holladay, John C. Clarke, Geo. Platt, and H. L. Coe—the two last named gentlemen in place of Messrs. Blanding and Davis, of the old Board, who resigned. Mr. Robert George was elected Secretary, in place of Thos. J. Lamb, who resigned a position he has so efficiently filled for the last five years. During the fiscal year ending December 1st, the Bullion returns of the company amounted to \$448,324.09; assessments and other receipts, \$211,637.83—total receipts, \$659,961.92. Among the items of disbursements during the year, we mention for mining \$246,826.28, and reduction \$134,085.35. The debt of the company amounts to \$58,685.20, including obligations maturing in January, February, March and April, 1887.

IMPERIAL—sold within a range of \$136 @ 141, closing at \$140....CONFIDENCE at \$75 @ 80....OVERMAN at \$16 @ 20, closing at \$16, seller 10....BULLION at \$12 @ 7.50....SIERRA NEVADA at \$4.50 @ 3....BELCHER closed at \$137.50.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$616,951.50.

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1886.

By Mail.—THE MINING AND SCIENTIFIC PRESS will be sent by mail to any part of the civilized world. In case of removal, subscribers have only to inform us of the post-office address of their old and new location, and the paper will be sent accordingly.

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.
BARTLING & KIMBALL,
BOOK BINDERS,
Paper Rulers and Blank Book Manufacturers.
505 Clay street, (southwest cor. Sansome),
15v12-3m SAN FRANCISCO.

JOHN DANIEL,
(SUCCESSOR TO O. GOR)
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Mantels, Monuments, Tombs, Plumbers' Slabs
Etc., On hand and Manufactured to order.
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Maker of Models for Inventors.
MACHINES, MATHEMATICAL, OPTICAL AND PHIL-
OSOPHICAL Instruments, Scales, Weights, etc. Steel
Stamps, Dies and Die Sinking, Embossing Stamps. Repair-
ing of machinery promptly attended to.
No. 415 Market street, San Francisco. n7-1f

Palmer's Patent
ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
629 Washington Street, San Francisco, Cal. 10v8-1m

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SOLE MANUFACTURERS OF THE CELEBRATED
H. & L.
AXLE GREASE,
Natomia Street and North Beach,
2v13-3m SAN FRANCISCO.

F. M. TRUWORTHY,
STENCIL PLATE CUTTER,
—AND—
BRAND MANUFACTURER,
No. 321 Front street, corner of Commercial,
SAN FRANCISCO.

Names for Marking Linen, Brushes, Ink and Marking
Pots for sale. 9v13-3m

LEATHER HOSE AND BELTING,
ALL SIZES.
SUCTION HOSE MADE TO ORDER
At short notice, by

M. M. COOK & SON,
No. 801 Battery street,
13v13-3m SAN FRANCISCO.

Empire Sewing Machine Company.
Principal Office, 616 Broadway, New York.

GREAT IMPROVEMENT IN SEWING MACHINES.
The Empire Sewing Machine, it is thus rendered noiseless in action. Its motion being all positive, it is not liable to get out of order. It is the best Family Machine! Notice is called to our new and improved Manufacturing Machine, for Tailors and Boot and Shoe Fitters. Agents wanted, to whom a liberal discount will be given. No consignments made.

EMPIRE SEWING MACHINE COMPANY.
n7 7v13-5v

LEAD PIPE,
SHEET LEAD,
DROP AND BUCK SHOT

MINNIE BALLS, BAR LEAD, ETC.,

Are now manufactured at the

SAN FRANCISCO AND PACIFIC

Lead Pipe and Shot Works,

[Corner Howard and First streets,
SAN FRANCISCO.

Every article made at the above Works is WARRANTED
PERFECT, and made of pure, soft, refined LEAD. Orders
to be sent direct to the Factory, or to the subscribers.

THOS. H. SELBY & CO.,
13v13-3m 116 and 118 California street.

McNALLY & HAWKINS,
Plumbers and Gas-Fitters,
No. 645 Market street,
Adjoining R. C. Orphan Asylum, nearly opp. Monty's street,
SAN FRANCISCO.

BUILDINGS FITTED UP WITH GAS,
WATER AND STEAM PIPES, and all work Warranted.
Have constantly on hand an assortment of Gas-Fixtures,
Lead and Iron Pipes, Marble Sinks, etc.
19v13-2q

ELECTROTYPE CUTS, ENGRAVINGS, ETC.—Our Job Printing
office is abundantly supplied with elegant engravings, or-
naments, and other embellishments to suit the various
branches of industry in this State.

CARDS
\$3
Per 1,000
—AND—
Lower Rates
—FOR—
5,000.
Sterrett & Cubery,
PRINTERS,
533 Clay street,
—BELOW—
MONTGOMERY STREET.
19v13-3m
BILLS
—AND—
Circulars
NEATLY
Printed
—AT—
Low Prices.

WM. A. KOLLMYER,
LOOKING-GLASS
—AND—
PICTURE FRAME MAKER,
No. 41 Third street,
19v12-2m Near corner of Jessie.

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT
order for the accommodation of guests. Persons seeking
comfort and economy will find this the best Hotel in
the city to stop at. The beds are new, and in good order,
and the Rooms well ventilated. The Table will always be
supplied with the best in the market.

Prices, varying from \$1.50 to \$2 per day for
Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED
TO THE HOUSE.

Teams belonging to the House will be in attendance
at all the boats and cars to convey passengers to the House
FREE OF CHARGE, and to any part of the city for 50 cents
2v12 F. E. WEYGANT, Proprietor.

GOVERNMENT HOUSE,
Corner of Sansome and Washington sts.,
SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN
every direction, every ten minutes.
The rooms of the House are well furnished, large
and airy, are let by the month, week or day, and are
kept in superb order. There is a Restaurant attached for
ladies and families, where persons can board for one-half
they are required to pay at hotels. 19v13-3m SANBORN & CO.

WHAT CHEER HOUSE,
SACRAMENTO.

Fire-Proof Brick Building, corner Front and K Streets,
opposite Steamboat Landing.
Meals.....25 cents.
Board, per week.....\$1.00
Board and Lodging, per day.....1 00
Single Rooms.....50
Railroad Ticket Office and Stage Office on first floor.
7v12-3m A. J. SENATZ, Proprietor.

WOODWARD'S GARDENS!
MUSEUM,
Art Galleries, Conservatories and Zoolog-
ical Grounds,
On Mission and Valencia streets, between Thirteenth and
Fourteenth streets.

Open Every Day! 1-13

ADMISSION:
To all parts of the Gardens.....25 Cents.
Children, under 12 years of age.....Half Price.

NEW ATTRACTIONS are being constantly added to all
departments.

These Gardens are accessible by the Howard, Folsom and
Market street Cars.
Schools and Charitable Institutions, accompanied by guar-
dians, free on Mondays and Fridays. 23v13qr

Pacific Mail Steamship Co's
THROUGH LINE TO NEW YORK,
Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11
o'clock A. M. of the following dates, for
PANAMA, connecting via Panama Railroad, with one of
the Company's splendid steamers from ASPINWALL for
NEW YORK.

On the 10th, 18th and 30th of each month that has
30 days.

On the 10th, 19th and 30th of each month that has
31 days.

When the 10th, 19th and 30th fall on Sunday, they will
leave on Saturday preceding; when the 18th falls on Sun-
day, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at
Manzanillo. All touch at Acapulco.

Departure of 18th or 19th connect with French Trans-
Atlantic Co.'s steamer for St. Nazaire, and English steamer
for South America.

Departure of 10th connects with English steamer for
Southampton, and P. R. Co.'s steamer for Central
America.

Departure of the 30th connects with English steamer for
Lima, the port of the new mines.

The following Steamships will be dispatched on dates as
given below:

December 24th.—GOLDEN AGE.....Capt. W. F. Lapidge.
Connecting with OCEAN QUEEN, Capt. Gray.

Cabin passengers berthed through. Baggage checked
through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attend-
ance free.

These steamers will positively sail at 11 o'clock. Passen-
gers are requested to have their baggage on board before 10
o'clock.

Through Tickets for Liverpool by the Inman Line, can be
obtained at office P. M. S. S. Co., San Francisco.

For Merchandise and Freight apply to Messrs. WELLS,
FAROE & CO.

The splendid steamship COLORADO will be dis-
patched for CHINA on TUESDAY, January 1, 1887.
For passage and all other information, apply at the
Pacific Mail Steamship Co's office, corner of Sacramento and
Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

MOUNT DIABLO COAL.
CHEAP FUEL!
Cheaper than the East.
From the Independent Mine, at \$10 per ton.
GREENHOOD & NEWBAUER,
Nos. 207 and 209 Sansome street, between California
and Pine.

This Press is a large, sixteen page paper, and is truly a
valuable assistant to the mining interests of the Pacific
Coast.—[Kyo County News.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Monday, December 17.

5 shs Overman at 18 per share.
20 shs Overman at 17 1/2 per share.
25 shs Overman at 18 per share.
20 shs Bullion at 12 per share.
20 shs Bullion at 13 1/2 per share s 30.
4 shs Gould & Curry at 650 per foot s 30.
10 shs Ophir at 187 1/2 per foot.
10 shs Confidence at 75 per share s 30.
3 shs Confidence at 77 1/2 per share.
5 shs Chollar-Potosi at 225 per foot b 30.
20 shs Chollar-Potosi at 225 per foot.
22 shs Chollar-Potosi at 217 1/2 per foot.
5 shs Empire M & M Co. at 190 per share.
5 shs S. F. Gas Co. at 63 1/2 per cent.
19 shs S. F. Gas Co. at 64 per share.
2 shs Yellow Jacket at 1200 per foot b 30.
10 shs Yellow Jacket at 1120 per foot.
10 shs Sierra Nevada at 4 1/2 per share.
5 shs Imperial at 140 per share.
10 shs Imperial at 142 1/2 per share s 3.
1 shs Savage at 2020 per foot.
20 shs Crown Point at 1100 per foot.
4 shs Crown Point at 1100 per foot.
1 shs Belcher at 118 per foot.
6 shs Belcher at 130 per foot.
3 shs Belcher at 116 per foot.
50 shs Crockett at 500 per share.
5 shs Spring Valley W W at 60 per sh.
\$1,200 Legal Tender Notes at 72 1/2.

AFTERNOON SESSION.

40 shs Daney at 4 per share.
8 shs Gould & Curry at 700 per foot.
8 shs Gould & Curry at 730 per foot.
5 shs Cal. Steam Nav. Co. at 64 per cent b 3.
20 shs Imperial at 142 per share.
7 shs Imperial at 142 per share.
13 shs Chollar-Potosi at 217 1/2 per foot.
2 shs Chollar-Potosi at 218 per foot.
7 shs Chollar-Potosi at 219 per foot.
7 shs Chollar-Potosi at 217 per foot.
8 shs Chollar-Potosi at 215 per foot.
2 shs Yellow Jacket at 1115 per foot s 30.
2 shs Yellow Jacket at 1160 per foot.
1 shs Yellow Jacket at 1160 per foot.
1 shs Yellow Jacket at 1135 per foot b 30.
30 shs Confidence at 75 per share.
10 shs Confidence at 80 per share b 30.
1 shs Savage at 2210 per foot.
2 shs Savage at 2000 per foot s 6.
2 shs Savage at 1975 per foot.
20 shs Crown Point at 1100 per foot s 30.
4 shs Crown Point at 1130 per foot b 30.
10 shs Overman at 17 per share s 30.
30 shs Overman at 18 per share s 30.
40 shs Overman at 20 per share.

Amount of sales \$129,088 00

Tuesday, December 18.

10 shs Ophir at 185 per foot.
50 shs Ophir at 187 1/2 per foot.
35 shs Ophir at 180 per foot.
20 shs Sierra Nevada at 4 per share.
15 shs Daney at 3 1/2 per foot.
4 shs Gould & Curry at 690 per foot.
7 shs Yellow Jacket at 1200 per foot b 30.
2 shs Yellow Jacket at 1200 per foot.
6 shs Yellow Jacket at 1162 1/2 per foot.
1 shs Yellow Jacket at 1235 per foot.
10 shs Chollar-Potosi at 210 per foot.
27 shs Chollar-Potosi at 215 per foot.
9 shs Chollar-Potosi at 216 per foot s 3.
5 shs Chollar-Potosi at 222 1/2 per foot b 30.
20 shs Overman at 20 per share.
16 shs Overman at 17 1/2 per share.
20 shs Belcher at 107 1/2 per share.
6 shs Belcher at 111 per foot.
8 shs Crown Point at 1150 per foot.
4 shs Crown Point at 1175 per foot.
1 shs Savage at 1975 per foot b 10.
1 shs Savage at 1950 per foot.
1 shs Savage at 1950 per foot.
4 shs Savage at 1900 per foot.
5 shs Imperial at 133 per share.
7 shs Confidence at 76 7/8 per share.
15 shs Confidence at 75 per share b 5.
5 shs Confidence at 74 per share s 30.
10 shs Confidence at 80 per share b 30.

AFTERNOON SESSION.

24 shs Ophir at 182 1/2 per foot s 10.
52 shs Ophir at 180 1/2 per foot.
1 shs Empire M & M Co. at 185 per share.
4 shs Gould & Curry at 700 per foot b 5.
12 shs Gould & Curry at 690 per foot.
7 shs Imperial at 136 per share.
1 shs Savage at 2035 per foot b 30.
10 shs Savage at 2000 1/2 per foot.
4 shs Belcher at 115 per foot.
4 shs Belcher at 119 per foot.
5 shs Belcher at 119 1/2 per foot.
10 shs Yellow Jacket at 1200 per foot b 30.
6 shs Yellow Jacket at 1275 1/2 per foot b 30.
25 shs Confidence at 75 per share.
5 shs Confidence at 75 per share s 30.
10 shs Overman at 18 per share b 30.

Amount of sales \$156,953 00

Wednesday December 12.

100 shs Ophir at 180 per foot.
100 shs Ophir at 187 1/2 per foot.
40 shs Ophir at 191 per foot.
3 shs Cal Steam Nav Co at 64 per cent.
35 shs Sierra Nevada at 4 1/2 per share.
10 shs Imperial at 136 per share.
10 shs Imperial at 137 per share.
1 shs Empire M & M Co. at 205 per sh b 30.
5 shs Empire M & M Co. at 200 per sh b 30.
5 shs Empire M & M Co. at 192 1/2 per share.
1 shs Belcher at 126 per foot.
4 shs Belcher at 130 per foot.
2 shs Yellow Jacket at 1302 1/2 per foot b 30.
1 shs Yellow Jacket at 1277 1/2 per foot s 60.
5 shs Savage at 2000 per foot.
5 shs Savage at 1977 1/2 per foot.
5 shs Savage at 1900 per foot b 10.
20 shs Overman at 16 per share.
10 shs Overman at 15 per share s 30.
5 shs Chollar-Potosi at 216 per foot.
5 shs Chollar-Potosi at 211 per foot.
7 shs Chollar-Potosi at 212 1/2 per foot.

AFTERNOON SESSION.

114 shs Ophir at 185 per foot.
114 shs Ophir at 186 per foot.
5 shs Gould & Curry at 700 per foot.
4 shs Gould & Curry at 690 per foot.
15 shs Sierra Nevada at 4 per share.
5 shs Imperial at 136 1/2 per share.
3 shs Savage at 1900 per foot.
2 shs Savage at 1880 per foot s 30.
2 shs Empire M & M Co. at 192 1/2 per sh.
4 shs Yellow Jacket at 1250 per foot.
4 shs Yellow Jacket at 1270 per foot.
2 shs Yellow Jacket at 1260 per foot.
1 shs Belcher at 137 1/2 per share.
19 shs Chollar-Potosi at 211 1/2 per foot.
5 shs Chollar-Potosi at 215 per ft b 30.
10 shs Chollar-Potosi at 212 1/2 per ft b 30.
10 shs Chollar-Potosi at 210 per foot.
15 shs Chollar-Potosi at 209 per foot.
20 shs Confidence at 80 per foot b 30.
2 shs Overman at 18 1/2 per foot.
15 shs Overman at 15 per share s 30.
20 shs Overman at 16 1/2 per share b 30.
10 shs Overman at 16 1/2 per share.
6 shs Overman at 10 per share.
10 shs Overman at 16 1/2 per foot.

Amount of sales \$107,210 00

Thursday, December 20.

21 shs Ophir at 185 per foot b 30.
12 shs Ophir at 186 per foot b 30.
24 shs Ophir at 175 per foot b 30.
90 shs Ophir at 180 per foot.
17 shs Ophir at 170 per foot.
6 shs Confidence at 80 per share.
10 shs Confidence at 80 per share s 3.
4 shs Chollar-Potosi at 206 per foot.
10 shs Chollar-Potosi at 208 per foot.
7 shs Chollar-Potosi at 212 per foot.
5 shs Chollar-Potosi at 215 per foot b 30.
1 shs Savage at 1970 per foot.
6 shs Savage at 1970 per foot b 3.
6 shs Yellow Jacket at 1270 per foot b 30.
1 shs Yellow Jacket at 1230 per ft. s 30.
2 shs Yellow Jacket at 1260 per foot.
1 shs Imperial at 137 per share.
6 shs Belcher at 135 per foot.
6 shs Belcher at 146 per foot.
2 shs Empire M & M Co. at 190 per sh.
2 shs Bullion at 10 per share.
25 shs Bullion at 8 per share.
15 shs Bullion at 8 per share s 30.

AFTERNOON SESSION.

25 shs Overman at 15 1/2 per share.
25 shs Overman at 16 per share.
20 shs Overman at 15 1/2 per share s 5.
60 shs Ophir at 180 per foot b 30.
90 shs Ophir at 170 per foot.
123 shs Ophir at 170 per foot.
30 shs Sierra Nevada at 3 1/2 per share.
30 shs Sierra Nevada at 3 per share.
5 shs Confidence at 80 per share.
2 shs Imperial at 135 per share.
2 shs Chollar-Potosi at 216 per foot.
4 shs Chollar-Potosi at 216 per foot s 10.
10 shs Bullion at 8 per share.
10 shs Bullion at 7 1/2 per share.
3 shs Yellow Jacket at 1240 per foot.
2 shs Yellow Jacket at 1235 per foot.
1 shs Yellow Jacket at 1230 per ft s 30.
5 shs Yellow Jacket at 1235 per foot.
2 shs Yellow Jacket at 1250 per foot.

Amount of sales \$ 94,956 00

Friday, December 12.

5 shs De Soto at 2 per share.
12 shs Ophir at 170 per foot s 30.
12 shs Ophir at 165 per foot s 30.
72 shs Ophir at 150 per sh. s 30.
123 shs Ophir at 170 per foot.
216 shs Ophir at 165 per foot.
48 shs Ophir at 155 per foot.
21 shs Ophir at 157 1/2 per foot.
5 shs Overman at 15 per share s 30.
10 shs Overman at 15 1/2 per share.
10 shs Overman at 17 per share b 30.
10 shs Overman at 17 per share.
6 shs Overman at 16 1/2 per share.
10 shs Overman at 16 1/2 per share s 6.
4 shs Gould & Curry at 630 per foot.
4 shs Gould & Curry at 690 per foot.
5 shs Chollar-Potosi at 215 per foot.
1 shs Belcher at 140 per foot.
4 shs Belcher at 137 1/2 per foot.
10 shs Bullion at 7 1/2 per share.
10 shs Imperial at 133 per share.
8 shs Imperial at 140 per share.

8 shs Crown Point at 1230 per foot b 30.
12 shs Crown Point at 1200 per foot.
12 shs Crown Point at 1200 per foot.
4 shs Crown Point at 1210 per foot.
2 shs Empire M & M Co. at 192 1/2 per sh.
1 shs Empire M & M Co. at 191 per sh.
10 shs Confidence at 80 per share s 3.
10 shs Confidence at 35 per share s 3.
12 shs Yellow Jacket at 1250 per foot.
11 shs Yellow Jacket at 1280 per foot.
2 shs Yellow Jacket at 1250 per foot.
2 shs Yellow Jacket at 1255 per foot.
2 shs Yellow Jacket at 1270 per foot s 10.
2 shs Yellow Jacket at 1260 per foot s 10.
1 shs Yellow Jacket at 1270 per ft b 5.
2 shs Yellow Jacket at 1250 per foot s 30.
2 shs Yellow Jacket at 1255 per foot s 30.
3 shs Yellow Jacket at 1270 per foot b 10.
2 shs Yellow Jacket at 1265 per foot b 10.
1 shs Yellow Jacket at 1290 per foot b 30.
2 shs Yellow Jacket at 1270 per foot b 30.
1 shs Yellow Jacket at 1260 per ft s 20.

AFTERNOON SESSION.

36 shs Ophir at 162 per foot s 15.
24 shs Ophir at 162 per foot s 15.
24 shs Ophir at 162 per foot s 30.
12 shs Ophir at 163 per foot s 5.
20 shs Ophir at 160 per foot.
196 shs Ophir at 164 per foot.
10 shs Overman at 15 per share s 30.
10 shs Overman at 16 per share.
5 shs Overman at 16 per share s 10.
3 shs Chollar-Potosi at 216 per foot.
4 shs Chollar-Potosi at 215 per foot.
100 shs Spring Valley W W Co at 65 per sh b 10.
1 shs Savage at 1900 per foot.
2 shs Yellow Jacket at 1270 per foot b 10.
2 shs Yellow Jacket at 1270 per foot b 10.
1 shs Yellow Jacket at 1275 per foot.
2 shs Yellow Jacket at 1260 per foot.
1 shs Yellow Jacket at 1260 per foot.
1 shs Yellow Jacket at 1262 1/2 per foot.

Amount of sales \$ 70,075 00

MINING SHAREHOLDERS' DIRECTORY

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals].

Comprising the Names of Companies, District or County of Location; Amount of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME AND LOCATION.	AMT OF ASSESSMENT	DAY DELINQUENT.	DAY OF SALE
Arbitrio M. Co. \$1.50.....	Dec 4—Dec 22*		
Ancient River Channel B. H. M. Co. \$2.....	Dec 24—Jan 14*		
Bacon Mill & M. Co. \$10.....	Dec 11—Dec 23		
Cosala S. M. Co. \$1.....	Jan 21—Feb 11*		
Colorado S. & C. M. Co. \$1.....	Annual Meeting Dec 21*		
Chaparral Hill M. & S. M. Co. \$10.....	Dec 10—Dec 31		
Crown Point, dividend.....	Payable Dec 15		
Confidence S. M. Co. Storey co. Nev., div. 10p. c. Pay July 9			
De Soto S. M. Co. \$1.....	Dec 18—Jan 7		
Central S. M. Co. \$2.....	Dec 19—Jan 3		
Dios Pecho G. & S. M. Co. \$3.....	Jan 3—Jan 22*		
El Tesoro S. M. Co. \$1.....	Annual Meeting Jan 7		
Eureka, San Juan, dividend \$1.50 per sh. Pay July 9—Sept 3			
Empire M. & M. Co. dividend.....	Payable Dec 8		
Forest Springs M. Co. \$15.....	Jan 14—Jan 25		
Geo. Washington G. & S. M. Co. \$2.50.....	Dec 3—Dec 22*		
Gould & Curry, dividend \$3.00.....	Payable June 8		
Golden Rule M. Co. dividend.....	Payable Dec 20		
Gold Quarrying Co. \$40.....	Jan 11—Jan 23		
Hope Gravel M. Co. \$1.....	Dec 29—Jan 15*		
Hale & Norcross, dividend.....	Payable Dec 10		
Imperial G. & S. M. Co. dividend \$3 sh. Payable Dec 15			
Independent M. Co. dividend.....	Payable Sept 1		
Imperial M. Co. \$25.....	Dec 12—Dec 27		
Josephine M. Co. \$1.....	Jan 15—Feb 4*		
Jefferson G. & S. M. Co. Yuba co. Div. \$10 sh. Payable Aug 23			
Keystone M. Co. Calaveras Co. \$10.....	Jan 21—Feb 11*		
La Blanca G. & S. M. Co. \$1.60.....	Jan 15—Jan 31		
Melones Stanislaus G. S. & C. M. Co. \$2.....	Jan 14—Feb 4*		
Mount Tenaho S. M. Co. \$2.....	Jan 4—Jan 25		
Mutual Mountain G. & S. M. Co. \$10.....	Dec 10—Dec 31*		
North Star G. & S. M. Co. \$10.....	Dec 10—Jan 5		
Overman S. M. Co. \$10.....	Jan 16—Feb 4		
Pacific Coal M. Co. \$5.....	Dec 24—Jan 21		
Panama and Boleros S. M. Co. Mex. \$2.....	Jan 5—Jan 21		
Penninsula M. Co. dividend.....	Annual Meeting Jan 1		
Rattlesnake G. & S. M. Co. dividend.....	Meeting Jan 25		
Siskiyou M. Co. \$3.....	Jan 21—Feb 25*		
Santa Cruz P. O. W. \$30.....	Jan 6—Jan 25*		
Santiago M. Co. dividend.....	Payable Dec 5		
Savage S. M. Co. dividend.....	Payable Dec 8		
Sumner G. & S. M. Co. \$5.....	Dec 10—Jan 5		
Sierra S. M. Co. \$1.....	Jan 16—Feb 2		
Tuolumne M. G. & S. M. Co. \$1.....	Dec 8—Dec 24*		
Texas Flat M. Co. \$25.....	Dec 30—Jan 21		
Trifunco G. & S. M. Co. \$10.....	Nov 30—Jan 31		
Yellow Jacket S. M. Co., div. \$75 sh.....	Payable Dec 15		

Those marked with an asterisk () are advertised in this journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, December 21, 1866.

United States 7 3 10ths.....	Bid.	Asked.
Gov. Legal Tender Notes.....	72	72 1/2
State Bonds, 7 3 10ths.....	83	83
San Francisco 10 per cent.....	100	102
San Francisco Bonds, 1855, 6 per cent.....	80	95
San Francisco Gas.....	64 1/2	65 1/2
San Francisco Bonds, 1858, 6 per cent.....	70	73
Sacramento City Bonds, 6 per cent.....	20	—
Sacramento County Bonds, 6 per cent.....	80	83 1/2
Marquette Bonds, 10 per cent.....	85	85
Stockton Bonds, 10 per cent.....	80	85
Yuba County Bonds, 10 per cent.....	80	85
Butte County Bonds, 10 per cent.....	70	80
California Navigation Co.....	23	34
State Telegraph Stock.....	63	64
Sacramento Gas Co.....	—	75
Spring Valley Water Co.....	60	61

RAILROADS.

Sacramento Valley Railroad.....	—	—
Omnibus Railroad.....	65	60
Central Railroad Co.....	—	55
North Beach and Mission.....	46	47

MINING STOCKS.

Alpha.....	\$ 80	\$ 100
Bullion, G. H.....	7 1/2	—
Belcher.....	120	130
Confidence.....	75	80
Ophir.....	163	165
Gould & Curry.....	680	700
Empire M. & M. Co.....	187	192
Savage.....	1950	1975
Chollar-Potosi.....	212	215
Hale & Norcross.....	2500	—
Yellow Jacket.....	1260	1265
Overman.....	1200	1230
Crown Point.....	16	16 1/2
Imperial.....	140	141

San Francisco Market Rates.

WHOLESALE PRICES.

FRIDAY, Dec. 21, 1866.

Flour extra, 36 lbs.....	50	50 1/2
Do Superfine.....	50	50 1/2
Coru Meal, 36 lbs.....	2 00	2 50
Wheat, 36 lbs.....	1 50	1 85
Oats, 36 lbs.....	1 40	1 60
Barley, 36 lbs.....	95	1 00
Beans, 36 lbs.....	2 50	3 50
Pinto Beans, 36 lbs.....	60	1 25
Lard, 36 lbs.....	8 00	15 00
Live Oak Wood, 36 cord.....	8 00	10 00
Beef, on foot, 36 lbs.....	5	6
Beef, extra, dressed, 36 lbs.....	10	15
Sheep, on foot, 36 lbs.....	3 00	3 50
Hogs, on foot, 36 lbs.....	7 1/2	8
Hogs, dressed, 36 lbs.....	10	12

GROCERIES, ETC.

Sugar, crushed, 36 lbs.....	—	13 1/2
Do China.....	—	—
Coffee, Costa Rica, 36 lbs.....	25	—
Do Rio.....	23 1/2	—
Tea, Japan, 36 lbs.....	80	90
Do Green.....	60	1 25
Hawaiian Rice, 36 lbs.....	9	—
China do.....	6 1/2	7 1/2
Coal Oil, 36 gal.....	6 1/2	7 1/2
Candles, 36 lbs.....	20	25
Runch Butter, 36 lbs.....	30	50
Isthmus do.....	25	35
Cheese, California, 36 lbs.....	10	17
Eggs, 36 doz.....	50	

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the Silver Mountain *Bulletin* of Dec. 8th: Mylett, Burke, Jardine and Smith, owners of the Del Monte claim, situated in Scandinavian Cañon, exhibited some fine looking ore taken from this claim. They are down about thirty feet, and are now cutting across the ledge in order to determine its thickness.

At last the machinery for completing the Washington mill has arrived, and as only a few days will be consumed in getting it in motion, the next announcement we hope to make will be a "silver brick" therefrom. The prospect of an immediate revival of business in our midst appears to have given every one new heart. The want of another mill before spring will be realized before thirty days, as the George Washington mine can at any time place thirty men at work advantageously in getting out ores.

From the *Miner* of Dec. 15th: Gen. Hall commenced operations for the Active Company this week by starting a shaft on the Constitution lode, just below town. We were shown yesterday some very fine specimens of ore taken from this shaft, now down only about five feet.

The ore which assayed \$2,160 per ton, two weeks since, was from the Leviathan. It is the largest well defined vein of such richness in Alpine.

Amador County—

From the *Ledger* of Dec. 15th: Workmen are busy at the Kearsarge mill, putting up Amble's sulphuret machinery. It will take a few weeks yet to complete the job, and then they will commence working rock from the Coney & Bigelow mine. At present the mill is crushing rock from the old Moore mine.

The Pioneer is now yielding more bountifully than at any former period. The deeper they go the richer the rock becomes—in fact, the mine seems to be running into a mass of valuable sulphurets. The mill, now that water is abundant, is kept running day and night.

A short time since we mentioned that a very rich deposit of ore had been found in the lower level of the Newton copper mine. The deposit, instead of being a mere "bunch," is proving to be an extensive mass, and even richer than at first reported.

The heavy timbers for the Atchison mill are now on the ground. The work is being pushed forward rapidly. Mr. Atchison left last Saturday for Sacramento, for the purpose of purchasing machinery for the mill, which is to be a twenty-stamp one.

Butte County—

The claim opened by Virginians, which we alluded to last week, is in Bangor, 16 miles from Marysville, and comprises 1,500 running feet. A shaft 72 feet has been sunk, and drifts run east and west. The pay streak was struck in the latter. It is found to be about 60 feet in width, and will average \$30 to the ton.

Calaveras County—

From the San Andreas *Register* of Dec. 15th: The late rains have caused a stir amongst the miners. Yesterday we noticed several at work in the gulches, and we hope, ere many days have past, to have the pleasure of making known in the world some "big strike."

Letter to same from Dutch Hill says: We are alive and kicking up this way. Times are extremely exciting in consequence of new and rich discoveries in Warren's Ranch, of placer diggings. They have found extensive diluvial deposits on the higher ridges in that vicinity, in fact, the prospects are equal to those of '49. F. Treat & Co. are extending their Table Mountain ditch to the new discoveries, and after the first rains we anticipate lively times.

From the *Chronicle* of the 15th Dec.: We were shown this week, by Mr. Wesson, some very rich specimens of gold-bearing sulphurets taken from his claim near Middle Bar. It needed no microscope to determine the auriferous particles. Wesson & Co. feel confident that by spring they will have developed a ledge of sufficient extent to warrant the erection of a mill. The rock, from the top to the bottom of their shaft, which has been sunk to a considerable depth, prospects finely.

El Dorado County—

From the Placerville *Herald* of December 12th: The Woodside mine, at Georgetown, still continues rich. On Wednesday last there was pounded out in a mortar, a canelo box full of quartz, which yielded \$3,000. Mr. Treadwell, of Ophir, who was present, brought over here, the same day, some very fine looking specimens from the mine. The vein is located entirely in slate, which is very seamy.

A communication from Placerville, December 18th, says: The quartz excitement still con-

tinues, and new discoveries are being made almost daily. The lead discovered a short time since at Poverty Point prospects very fine, and the company is at work sinking on and developing the claims.

Mud Springs correspondent of Placerville *Democrat* gives the following: "At the Bryant lead, two miles south of El Dorado, the owners are building hoisting works to prospect to a great depth. The Union lead, near Auburn City, is now in the hands of energetic men, who will soon have their hoisting works in operation. The DeWolf and Baker lead, on Mathenas Creek, is said to be promising. Col. Baker is negotiating with some capitalists to have this lead prospected some two or three hundred feet in depth. Jameson & Co. have recently sold their magnificent lead, on Deadman's Hollow, to a company who are about to sink a new shaft and erect machinery. Thomas Davidson has prospected his lead to a depth of one hundred and twenty-five feet. He will most likely build a mill on it the coming spring. The New York and El Dorado mill, on Loafer's Hollow, erected by Captain Woodworth, is said to be one of the finest mills in the State. The machinery is perfect. This company are sinking a deep shaft at present. The Sugar Loaf is now owned by a company who are able and willing to develop their lead."

Fresno County—

From the Mariposa *Gazette* of December 15th: Operations on the Buchanan Hollow copper mine have been suspended for about three weeks, but it is confidently stated that work will be resumed there next Monday. The mine is down about 140 feet, and shows a vein of copper four feet wide. The proceeds of the concern are over \$2,000 per month, but the working expenses are very heavy, and considerably in excess of the product. The great want here as elsewhere is capital to carry on the work on a scale commensurate to the magnitude of the undertaking.

Inyo County—

A letter to the *Alta* of December 14th, from Camp Independence, has these items: The Chrysolite mill has finally been completed, and is now in fine running order. This is a 20-stamp mill put up by a New York company at an expense of one hundred thousand dollars. At the Stephenson mine very excellent ore has been struck, at a depth of one hundred and thirty feet. Some of this ore assays nine hundred dollars to the ton. The Kearsarge mine is also improving as they go down. Some specimens which I have from this mine appear to contain about as much silver as rock. Silver Spent is also coming out fine, and will, no doubt, prove a valuable mine.

Mariposa County—

From the *Gazette* of Dec. 15th: In Hunter's Valley, work is in full progress on the La Victoire copper mine. The company have ten to twelve hands constantly employed and are down several hundred feet. Haskell's patent process for reducing the copper is used here successfully. The general prospects of this copper mine may be said to be good.

Prospects at Phillip's Flat are flattering. Barrett & Matthews are making good wages. Sutton & Co. have just started working by hydraulic power. Their ditch is excellent, and the water plentiful.

Douglas and Barrett at Gimisal are working on their pocket vein with favorable prospects. Carson & Co. are not doing anything just now, but will commence soon.

At the Pott's mine, one hundred and twenty-six ounces of amalgam were the result of two weeks run.

The Lafayette Company is now in active operation, and taking out some excellent rock. There is a 4-stamp mill near the mine. The company are satisfied that the mine ought to pay at the rate of \$50 to the ton, instead of its present yield of from \$25 to \$30. We understand that arrangements are being made to sell the mines to parties in San Francisco.

From Coulterville correspondence of same paper: Messrs. McKee & Flannigan are finding richer ore than ever. They beat out in a small mortar over 100 pounds of gold on Friday evening last.... At Marble Springs appearances are indicative of splendid results. Dr. McLean, Chamberlain, and Douglas & Co. are going on well, and are said to have good work in sight.

Nevada County—

From the *Gazette* of Dec. 15th: The mill of the Pennsylvania company, which has been standing idle for several months, while the mine was being more thoroughly opened, will start up again for regular work on Monday next. Since the new hoisting works were erected, an incline has been sunk on the ledge to the depth of 75 or 80 feet below the old works, and from this point levels are being run in both directions—that to the north being some 25 feet, and to the south between 40 and 50 feet. They have out now some 60 or 70 tons of rock.

From same of 18th: We learn from A. F. Mason, Deputy Assessor, that the Rocky Bar

company, whose claims are situated near Washington, are now taking out gold in large quantities. The yield of their claims week before last was over eighty ounces, and of this about thirty ounces was taken from one pan of gravel.

From the Grass Valley *Union* of Dec. 13th: The Osborn Hill mine, or as it is more generally known, the Woodworth mine, was yesterday sold for \$30,000. The purchasers were W. H. Hooper, Thomas Jones, S. W. Lee, Robert and John Smith, A. Delano, William Campbell and Alexander Stoddard. This is one of the oldest mines about Grass Valley, and has paid second to no quartz mine in this township. It is regarded as very cheap at \$30,000.

From same of 16th: In the Union Hill mine the work of sinking for another level is energetically going on. Large quantities of first-class ore are being extracted from the present lowest level, the mill is constantly crushing, and the weekly yield of amalgam is a perfect eye-feast. The force now employed about the Union Hill mine and mill now numbers some sixty men.

The *Union* says: Fourteen mining companies, ten of which run their own mills, are now working extensive mines profitably. We challenge the State of Nevada to show as large a number of paying mines as this township alone can show.

The Eureka mine, since it became the property of its present owners, about one year ago, has paid a monthly dividend of from \$20,000 to \$50,000.

From the *Transcript* of the 15th Dec.: The mines on the ridge above San Juan are yielding largely this season. At Badger Hill the English Company have constructed a large amount of fluming. They have taken out a very large amount of money from the cement bed on which they are now working. At Columbia Hill, the companies working are taking out good pay, and the town presents a livelier appearance than it has for several years.

The Knickerbocker mine is located on Gold Flat and is supposed to be the extension of the Whigham. The claim was located last fall, and a crushing obtained which paid \$20 to the ton. The owners are now running a tunnel, which they expect will cut the ledge next week, giving them sixty feet hacks.

The following blue lead items are from the *Transcript*: The Gouge Eye is running night and day, and cleaning up about \$2,000 per week.

Williams & Riggs are running both their mills on good dirt.

Carney & Tucker are running a new tunnel to the back of their ground, being shut off by masses of boulders from the old works.

The Eastern is proposing to sluice off the top dirt as the best way of opening its ground.

Neice & West are running a new drift to strike the high bed rock on the west side of their claims.

Brown & Co. worked to the Hydelliff line, and have started a new tunnel westwardly to make a new breast.

Hydelliff & Co. have struck softer and richer dirt, and their claim is very promising.

Curran & Buckman have abundance of pay dirt in sight.

Jacobs & Sargent are running the Green Mountain mill twenty hours out of the twenty-four, with good dirt.

Cozzens & Garber are successfully pumping out the water let in by the recent cave of the cañon.

EXCELSIOR.—From the Meadow Lake *Sun* of Dec. 8th: Machinery for the Golden Eagle, Reduction, and Mohawk and Montreal mills, is now on its way from Cisco, and in less than ten days their whistles will awaken the echoes of our hills. But for the inclement weather of last week, the mills would before now have been in operation.

A correspondent of the Dutch Flat *Enquirer* writes from Meadow Lake Dec. 9th: At this time all but the principal claims of the district have closed their works for the winter.

The U. S. Grant Company, after having refitted their mill with a set of heavier stamps, is paying as rich, if not richer, than before. The California Company are sinking a shaft on the Knickerbocker ledge, and as soon as they have obtained a sufficient quantity of quartz will commence crushing. The Pacific Company are now having a large quantity of rock worked at the Winton mill, which is paying finely. The Gold Run Company are running a tunnel into their ledge, and will, in the spring, have one of the best opened claims in this section.

The writer of the above visited the Excelsior mine on snow-shoes, in company with a friend. They found it silent, owing to a defect in the working of the stamps. Returning, they found the ascending of hills on snow-shoes a very different thing from descending the same. So they shouldered their shoes and trudged home, sadder and hungrier men.

In the Mohawk and Montreal, Mr. Chappel-

let is pushing forward the work energetically. The machinery for the new mill of the company has just arrived at Meadow Lake, and will be transported over the snow to the mill site, which adjoins the mine, immediately, and be in operation just as soon as human labor can accomplish it.

Placer County—

From the *Herald* of December 15th: Capt. Mallett left with us on Thursday last a piece of rock from his claim. It will no doubt yield from twenty to thirty dollars to the ton. We are pleased to know that our mining prospects around Auburn are gradually brightening.

The New Mexico mine, located on the road mid-way between Auburn and Ophir, has recently proved itself handsomely. Out of a recent crushing of nine tons, the yield was ninety dollars in free gold. The vein is about fifteen inches in thickness, and is owned by H. H. Fellows & Co.

Sacramento County—

From the Folsom *Telegraph* of December 15th: A shaft is being sunk on the flat opposite this town, which is now over one hundred feet in depth. It was started on a worked out claim in what was formerly considered the bedrock. Various singular formations have been passed through. Sea-shells, petrified wood, and debris of an unknown age have been met with. The workmen are now working in a hard blue formation, and think the cement lies underneath it.

Shasta County—

From the *Courier* of December 15th: The proprietors of the Red Warrior claim are having a shaft sunk upon the lode, and are confident they have as good rock as any yet taken from the Chicago. Quite a number of assays of this rock have been had, and the result in every instance has been over one hundred dollars to the ton.... Henry Jones and Ed. Gage, while out prospecting one day this week, discovered a quartz ledge on the hill near Daniel's claim, and on reducing some of the rock found it to be surprisingly rich in gold. Several claims have been located on the ledge.

The quartz interest of the county is slowly but surely rising in importance, despite the many drawbacks which it has heretofore encountered. Incompetent superintendents, ignorant millmen, inexperienced miners, and the want of proper machinery and sufficient capital have all operated prejudicially to the proper development and progress of our mines; but these difficulties are in a fair way of being at least partially overcome.

Sierra County—

From the Downville *Messenger* of Dec. 15th: Work has been commenced on the "Venice," located about a quarter of a mile south of town. The croppings of the ledge are three feet in width. We saw some of the rock crushed and pounded down, which gave a very fine prospect.

From Port Wine letter to same: Mining prospects are improving in this locality. The Eagle Company lately cleaned up for two weeks work sixty-three ounces of gold. The Erie boys are getting ready, and anticipate doing better than ever, and the Monte Cristo still continues paying the usual revenue.

At Gibsonville, many of the miners are idle for the want of water, the yards and dump sheds being already full.

Letter to same from Howland Flat, has these items: The diggings at this place are paying remarkably well, all working a large force of men. The Union Company employ eighty. This company have a superior double track and tunnel two thousand feet in length, the best incline, four hundred feet in length, the most extensive gravel claims in California, and if pleasant countenances are any indication, the owners are acquiring a fortune.

The Hawkeye Company, after expending \$25,000 in running a drain tunnel now found to be useless, have determined to run another independent of all others. The work will occupy two years. The company is working a large force of hands in their front lead with very good results.... The Monumental are still running night and day, hard rock still staring them in the face.... The Pittsburgh Company at Potosi, has suspended drifting for the present. The men are to be paid off on Thursday. The future programme is only known to the owners.

Siskiyou County—

The Siskiyou and Shasta Butte Quartz Mining Company, on the Humboldt lead, are taking out large quantities of rock, which prospects finely. The owners of the Mexican lode have resumed work and will soon have their mill running.

Yuba County—

A letter from Paulinville to the Marysville *Appeal* of Dec. 13th, has the following: "The Mary Ann is now being opened and the rock prospects at least \$100 a ton. The ledge is about two feet wide at the top, and at thirty-seven feet has increased to three feet. The greater portion of the rock is decomposed—it all pays. I send you a package, which you

will please have Knight & Co. not to assay, but to "horn out." It is only an average specimen taken by me to-day from the center of the ledge. A party are running in a tunnel along the ledge and taking out rock such as I send you. Four men could now keep an 8-stamp mill supplied.

The next day's *Appeal* says the request was complied with, and the "honing out" showed the rock to be worth from seventy-five to one hundred dollars per ton.

Washoe—

NEVADA.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

From the *Virginia Union* of Dec. 10th: Capt. A. Taylor is about to commence surface mining just north of the Devil's Gate. He intends to employ eight men, and to run the earth through rockers. As it contains much free gold, and will yield by ordinary mill process \$10 per ton, the Captain thinks he can make a good thing. One man will work about two tons per day.

From the *Gold Hill News* of Dec. 11th: We do not remember of ever having seen better ore taken from any of the mines of Gold Hill than that which is being taken out of the Yellow Jacket at the present time. The ore shows large quantities of black sulphurets, and will undoubtedly pay from thirty to sixty dollars per ton. This ore is being taken from the new strike we mentioned last week.

From the *Territorial Enterprise* of Dec. 14th: Never have the mines of Nevada been yielding more abundantly than now, and never have those that are productive offered to capital so substantial a chance for investment. Among the incorporated Comstock companies, the following dividends have been declared for the present month:

Savage, payable on the 8th.....	\$100
Yellow Jacket, payable on the 15th.....	75
Empire, payable on the 8th.....	15
Imperial, payable on the 15th.....	8
Crown Point, payable on the 15th.....	50
Hale and Norcross, payable on the 15th.....	100

In addition to this princely dividend by the Hale and Norcross on the 15th, the Directors have decided to make the shareholders a Christmas present of another \$100 per foot on the 25th! By these six companies there will therefore be paid to their stockholders the present month the following amounts respectively:

Savage.....	\$80,000
Yellow Jacket, price \$1,250, about 6 per cent.....	90,000
Empire, price \$5, about 8 per cent.....	18,000
Imperial, price \$130, about 6 per cent.....	82,000
Crown Point, price \$1,100, about 4½ per cent.....	30,000
Hale and Norcross, price \$2,000, about 4 per cent.....	80,000
Total.....	\$330,000

The profits of the private Gold Hill claims will probably swell this aggregate of dividends for December to \$500,000—the yield of less than five thousand feet of the Comstock for one month, after deducting all expenses! As probably not more than twenty-five per cent. of the gross proceeds is paid in dividends, or an average, owing to the enormous cost of extraction and reduction, the mines referred to have produced not less than \$2,000,000 in bullion during the past month, or \$1,500,000 at the lowest warlike estimate—equal to \$18,000,000 yearly! We challenge the world to parallel this. First-class stocks have advanced considerably in price during the past fortnight, yet at their market rates yesterday they are yielding to stockholders (assuming the December dividends to be the monthly returns) interest on their investments as follows per month:

Savage, price \$2,100, about 4 per cent.....	
Yellow Jacket, price \$1,250, about 6 per cent.....	
Empire, price \$5, about 8 per cent.....	
Imperial, price \$130, about 6 per cent.....	
Crown Point, price \$1,100, about 4½ per cent.....	
Hale and Norcross, price \$2,000, about 4 per cent.....	

The average, it will be seen is about 3½ per cent. per month. Considering all the hazards of mining, this is a large return, and our productive mines certainly present extraordinary inducements to Eastern capitalists.

We are informed that a new and very promising quartz mining locality was discovered last week by a party of prospectors, among the red hills west of Truckee river, some forty miles west of this city, and near the route of the Pacific Railroad. The ledges are from two to six feet in width, and prospect exceedingly well in gold and silver. The discovery is said to have created quite an excitement in the vicinity, plenty of men being busily locating and recording claims, while the original discoverers are hard at work opening out their claims, anxious to develop their true value at the earliest practicable opportunity. A meeting of the miners will soon be held and the district named.

Reese River—

From the *Reveille* of Dec. 8th: Some 1,538 pounds of mineral were brought in from the Reveille District and carried to mill for reduction. The assay gives a yield of \$1,617.21 of silver per ton.

From same of 10th: The mills of the Manhattan and Metacom companies were to be set

in motion to-day. We learn that the Metacom has a good supply of ore on hand, with hundreds of tons in sight in the mine.

Same of 11th: Some excitement was caused last week by a report that the vein in the Great Eastern—one of our most important mines—had "pinched out." The pinch is admitted, and those are its consequences: During the month of October the Great Eastern sent to the Keystone mill for reduction 200 tons of ore, which yielded the handsome sum of \$27,000, an average of \$135 per ton. Early in November the vein began to contract, to pinch, and was able to send to the same mill in the whole of that month only 123 tons, which yielded \$36,000, being the average of nearly \$300 per ton. The vein had contracted nearly half its ordinary width, but so highly concentrated was its ore that a quantity about three-eighths less yielded \$9,000 more. The Great Eastern vein is peculiarly the "razor-blade" of the Reese River District.

We are informed by a letter just received from Mammoth District, that a Mr. Gillette had arrived there as superintendent of the Ural S. M. Company, which property had recently been sold to parties East.

We learn of the Buel North Star mine that recent explorations caught the vein unusually rich. One ton of ore reduced at the Keystone mill yielded at the rate of \$513 of silver per ton.

The Keystone is to be closed for two weeks for repairs.

From same of 12th: The mill of the Manhattan Company was set in motion yesterday for the first time since the incoming of General Agent Bowstead. The amalgamating apparatus and furnaces of the original ten-stamp mill are connected with the new twenty-stamp battery and powerful engine.

On the Timoke Company's claims, at Lander Hill, the incline has been sunk to the depth of 345 feet, which is far below the water line. At present, all of the ore extracted is taken from a single level but 100 feet from the surface, and where the mine is entirely dry. This ore is a beautiful black sulphuret and ruby, the working of which averages near \$200 per ton. The vein is from a ledge and a half to two feet in thickness.

Esmeralda—

From the *Union* of Dec. 8th: The Juanita mine is being worked with renewed energy.

Mr. George Ash is now working successfully a claim about one mile east of Moos. At a depth of about forty feet a bed of gravel was struck four feet thick, which prospects about sixty cents to the ton. So far as prospected, the pay streak is about thirty feet wide.

Mr. B. V. Poor and son have opened a new claim on Silver Hill, from which they are taking out a large quantity of rich ore. Mr. Livingston, Superintendent of the Empire Mill at Bodie, is daily expected from the East, where he has been making preparations for the active prosecution of the work on the mine. The Cornucopia Co., of Partzwick, has now en route for San Francisco 3,000 pounds of silver bullion. The bullion will assay in the neighborhood of \$5 per pound.

From the *Virginia Union* of Dec. 14th: Mr. Wilson, of the Walker River mines, gives us these items: Among the principal ledges, the Himalaya, Midas and Wheeler take precedence. The ledges are from eight to twelve feet thick, and in the first mentioned, the crops have been breasted across from the surface, and about sixty tons of ore taken for crushing. Its character is a peculiar honey-comb quartz, impregnated with free gold and some silver, and susceptible of easy amalgamation. In the Midas, an incline has been run some thirty feet, and two tons of ore collected for reduction; while from the Wheeler, 2,100 tons of ore worked at the Ogden mill rendered \$102.75 in gold and silver.

Humboldt—

From the *Register* of Dec. 8th: The Sheba mill is running on Yosemite rock. One lot of four tons, assorted, gave a yield of \$1,000. Sagebrush is the fuel used. In the North Star, S. L. Loomie has resumed operations, working two sets of men in tunnel and shaft. A specimen of ore before us, from the bottom of the shaft, is plentifully interspersed with native silver and indications of gold. Torrey & Whitmore have commenced operations on the Wheeler ledge, in Armbia—mineral similar to the Mootzuma. They expect to start smelting works sometime during the winter.

Mining matters are looking better at Winnemucca. L. C. Pease, agent for a New York company, is making times lively up that way. Workmen are engaged in running two tunnels—one to strike the Pride of the Mountain ledge 250 feet in, and continue to prospect for ledges beyond that point; the other to strike one of the ledges of the Union Series at a distance in of 300 feet. The ore is of no average value of \$65 per ton.

Black Rock—

From the *Plumas National* of Dec. 8th: We learn that the new mill at Black Rock has commenced operations. The returns of the

first experiment with this mill are anxiously awaited by all who are interested in this promising mining section.

Pahrumpagat—

A correspondent sends us the following: Messrs. Editors:—Mr. Raymond's five-stamp mill has now commenced running on what Superintendent Day considers average Pahrumpagat ore. This mill is simply a test mill, to ascertain the adaptability of our ores to the amalgamating process; and if the results are satisfactory—of which I have no doubt—the company, of which Mr. Raymond is the agent, will introduce machinery of any required extent to develop their ledges. Thirty stamps are now en route to this place—twenty via the Colorado river, and ten via Los Angeles. Two arastras, to go by water power, are being constructed at Crystal Springs. Our mines are rapidly passing into the hands of New York and other Eastern capitalists, and San Francisco is losing a prize which should have been theirs.

ORION.

IDAHO.

From the *Idaho City Times* of 30th Nov.: Several rockers, running on Main street, are paying from \$12 to \$50 per day. A number of them are taking dirt from tanoels and will be able to work all winter. The recent rains have revived creek mining in the various camps in the Basin. A large number of miners are now at work on Grimes' Creek, near Centerville and Pioneer City. Claims on Graioite and Wolf Creeks are also being worked. The tunnels in the vicinity of Placerville are being vigorously pushed forward.

At Rosenbaum's mill, the result of eighteen hours run, ending Saturday noon, was fifty-six ounces of amalgam, taken from the plates only; a thorough cleaning up would materially swell the amount. A new tunnel has lately been commenced about 200 feet above the main Juniata tunnel, which is about sixty-five feet in length, besides side tunnels, etc., now being run on the Juniata ledge, which is from three and a half to four feet in width. The ore is very rich.

A statement by John A. Post, revenue collector at Owyho, shows the currency value of bullion assays from January 1st, 1866, to be \$1,073,256.78. It is estimated that the product of the present year will be \$2,000,000, and that of the next year will go beyond \$5,000,000.

MONTANA.

From the *Helena Herald* of Nov. 29th: Spiers & Pierce are now engaged in constructing an extensive bedrock flume in Nelson Gulch, six miles from town. Eighteen hundred feet are already completed. The whole will be in working order in ten days, the weather coöperating good.

From the *Post* of Dec. 1st: Quartz in the Pipestone district is on the rise. The "cap" on the "Lioo" has been penetrated, and a five-foot vein of rich ore, now awaits the completion of Hermann's steam mill to crush the quartz. The locality H.'s mill is in, is not favorable to water power, owing to its attitude, and Mr. H. has now moved his mill close to the "Lioo" ledge, erected a fine building and applied steam power to his fifteen stamps. We shall soon hear of good returns from that quarter.

Fifteen hundred men are wintering on Elk and Bear Creeks, well supplied with provisions. A rich ledge was discovered a few days ago, one mile south of the Park ledge. There is a six feet vein of splendid looking ore.

The largest among the splendid silver lodes to be seen at the bank, is the proceeds of four tons of ore from the Rattlesnake ledge. On No. 3, Whitlatch Union, a rich deposit of ore was struck on Tuesday, which outstrips anything we ever saw. Mr. Rumley assayed a piece weighing five ounces, two pennyweights and five grains, and made return of it containing \$35.28. The quartz mill of the Bullion Mining Company commenced crushing on Monday. Only one crusher is being used at present. This mill is in Nelson Gulch, about six miles from Helena.

The Virginia and Nevada Ditch and Flume Company has been incorporated. Thirty thousand feet of gulch ground, heretofore valueless, will become a source of revenue through its operations. The ditch will convey 4,000 inches of water from the Passmore to a point near Highland.

Letter to same from New York Gulch, thus speaks of Gastoo and Simpson's mill there situated. The engine is of 40-horse power. The thirty stamps of 600 pounds each, falling thirty-five times per minute, crush on an average twenty tons every twenty-four hours. Everything is perfect—no jar is perceptible when the mill is running. It was completed on Aug. 29th, and has been in operation ever since. Lumley & Watson's arastra crushes 1,000 pounds of Home Ticket rock every six hours, at an average of \$51 to the ton. Wessels & Wilkes have a mill of six 500 pound stamps. Seven tons of ore from the "Star of the West" yielded \$387.50 in this mill. On this ledge there is an incline sixty-five feet deep. From the bottom are two levels on the

vein. The Grizzly is now being sunk upon. The Little Giant has a shaft forty feet deep.

ARIZONA.

From the *La Paz Gazette* of Nov. 29th: A letter dated Callville Nov. 10th, says there is a large immigration from the northern mines coming by that route.

Some of the mills at Prescott have been in a state of suspension for a short time. Berger's will start in a few days, under very favorable circumstances. There are three mines now fairly opened, from which rock enough will be obtained to keep the mill supplied. The Galena, the Dividend and the Chaparral: The quartz from all these lodes prospect well. Woolsey's mill is being overhauled, and is expected to start in a few days. Tyson & Coulter's mill, on Lynx creek, has been running for several weeks. They had some difficulty in saving the gold from rock out of the Eureka lode. The rock is rich in fine gold, but difficult to work, owing to the sulphurets, which increase as they descend.

A letter from Hardyville, says: Charles Strong has got his mill running. Everything works well, and results are highly satisfactory. In the tunnel of the Moss mine has recently been struck, at a depth of 180 feet below the top of the cropping, a splendid 5-foot ledge, smooth, well defined and fat with gold. A width of fifty feet prospects with fine gold.

The superintendent of the Planet mine, at William's Fork, writes officially to the Trustees of the company, that he has struck an immense body of ore, 600 feet long, and six feet wide, which assays from 20 to 40 per cent. Thousands of tons of this ore could be forwarded to San Francisco if there were facilities for transporting it.

COLORADO.

From the *Journal* of Nov. 27th: Mr. W. Lee cleaned up 217 ounces of gold last evening, the past week's yield from sixty stamps. The company hope soon to be able to run the other section of twenty stamps, now crusing for the Guocell Company, on their own ore. They have the best service of ore ever known in No. 2, Gregory, now. It is about five feet wide in the shaft which is now 425 feet from the surface, and in the east and west levels, fifty or sixty feet above, it is scarcely less. Last week and week before the shaft supplied forty heavy stamps. The pump works to perfection.

In Nevada district, the American Flag Company are getting out some very good ore which Mr. Whitcomb is going to run. Mr. W. is now crushing from the Colorado lode, surface pays about \$225 a cord. Mr. Coulee has started the mill and property of the Gilpin Company on the Burroughs. Mr. Cushman is working the Hardesty property. Mr. Mitchell is running the 12-stamp mill in Leaveworth Gulch and doing well, taking out something more than 100 ounces a week. The Ophir Company continue to make money, and Mr. Vezin's Mooser institution approaches completion.

In the Santa Fe lode, discovery claim, a shaft has been sunk and partially timbered, to a depth of about thirty feet, showing a clear, well defined crevice from four to five feet wide between walls, with about eight inches of very fine looking glenn in the bottom, some of which has been hauled to Lyon's smelting works for reduction.

At Argentine, Rothplatz has got a house up, packed in supplies, and is going to work about ten men all winter. He is driving adits or tunnels on the Ayres and Watson lodes. Mr. Watson's furnace is to be kept going during the winter on ores from the John Brown lode, situated three or four miles up the right fork, not having twenty-four inches of mineral, very rich.

From the *Denver News* of Nov. 28th: The Nonpareil Company have already paid in a large proportion of the original capital stock, and are determined to have their property in a paying condition next season.

We were shown, to-day, by Mr. Froese, a number of specimens of ore from the James Creek district, beyond Boulder. They are from several different veins at from ten to twenty-five feet in depth. The finest specimen is from the Buckhorn—at twenty-five feet depth—which is unquestionably rich copper, and tests are reported as having given from it one hundred and twenty dollars to the ton in silver. Other specimens of porous quartz and dirt from the Gold lode, are rich in free gold. A pan test of the latter, made in our presence, from two to three ounces, a dozen or more particles of fine gold.

UTAH,

Works are to be erected at Stockton, Utah, for the testing of ores. Dr. Fred. Davidis contributes an article to the *Vedette*, announcing the fact, and urging the propriety of offering to capitalists certificates of working tests from a reliable establishment, as a proof of the richness of a mine, rather than a quantity of picked specimens.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

O. W. M. SMITH. W. B. EWER. A. T. DEWEY.
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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office.
SAN FRANCISCO, Jan 11th, 1866.

Mr. Thos. J. Hall, is an authorized agent for this journal for the northern counties of this State. Dec. 1, 1866.

Mr. F. F. Frost, is an authorized agent for the PRESS for Amador and Calaveras counties. Dec. 1, 1865.

Mr. L. W. Felton, is an authorized agent for this paper at Portland, Oregon. Dec. 1, 1866.

San Francisco:

Saturday Morning, Dec. 22, 1866.

NOTICES TO CORRESPONDENTS.

"B. F."—OUR UNDEVELOPED IRON RESOURCES.—It is to be regretted that so little attention has as yet been paid in this State to the development of its iron resources. It was once observed by the late Francis Horner, after inspecting a steel manufactory, that "Iron is not only the soul of every other manufacture, but the main spring, perhaps, of civilized society." The celebrated John Locke even went so far as to aver that, notwithstanding man's extraordinary advancement in knowledge, we should in a few ages, "were the use of iron lost amongst us, be unavoidably reduced to the wants and ignorance of the ancient savages of America; so that he who first made known the use of that contemptible mineral, may be truly styled the father of arts and the author of plenty. In California we may daily witness practical examples of the above apothegms—the Digger Indian, with his flint-headed arrows and twisted bone fish-hooks, the living representative of the pre-historic stone age, here meets face to face with the enlightened civilization of what may be termed the golden-age; for literally as well as metaphorically, the present age may justly be so termed. Enormous as have been the increased yield of gold since the discoveries of that metal in California and Australia, the increased production of iron has more than kept pace with it. In 1825, the annual production of iron in England amounted to half a million of tons, at which period it was at the head of the world in this department of industry, whilst our own production was so limited that it scarcely obtained attention amongst statesmen. Last year, the United States produced, of pig iron, more than one million and a half tons, whilst England produced six millions, or an increase of twelve times the weight obtained annually in the latter country, forty years previously. More remarkable still is the growth of the iron business in the Liasic and Oolitic districts of England, which only began to spring into existence about twelve years ago, yet now amount annually to one million and a half tons, or full one-fourth of that produced in the entire kingdom, and is rapidly extending.

"H. P."—No; Morse is not the inventor of the telegraphy by the use of electricity. Several years before he constructed his first experimental telegraph, Dr. Jackson, of Boston, explained to him how such a thing could be done. Morse, at that time, was totally unacquainted with both electricity and galvanism. With regard to the first discovery of electric telegraphy, Arthur Young (1787-9) mentions the experiments of Lomond, who conveyed messages from one room to another. Francis Ronalds, who rejected the galvanic or voltaic electricity, proposed by some Germans and Americans, and now successful, transmitted signals a distance of eight miles. He wrote in 1823, and states that Cavillo proposed to convey intelligence by passing sparks through an insulated wire. (Penny Cyc. xxiv., 154.) The relation of electricity to magnetism, engaged the attention of the Electrical Academy of Bavaria as early as 1774. In 1777, Baccaria first noticed that an electric shock made the two ends of the magnetic needle change their position to east and west. It was not till 1813 that Oersted published in German his work on the identity of chemical and electric forces, which was immediately translated into French by Marcel des Serres. It was in October, 1820, that Oersted himself communicated in Thomson's "Annals of Philosophy" the method of causing the needle to diverge to the right or left by the voltaic force. In 1837, Cook and Wheatstone first took out their patent; and in 1841 the Great Western Railway, influenced by Brunel, had a line thirteen miles in length from Paddington.

IMPROVEMENTS IN THE DISTILLATION OF PETROLEUM.

Several important improvements have recently been made for aiding and rendering more complete the distillation of coal oils. The first of these inventions which we notice has been patented by Mr. O. Lago, of New York city, who has recently taken out a patent, which consists in an arrangement for the admission of atmospheric air, or other gaseous substances, into the goose-neck or exit pipe of the still, and in such a manner as to vary the point of admission, as may be found desirable, while the distillation process is in progress. The object gained is an alleged expediting of the process, and an improvement in the quality of the oils distilled. The improvement in the quality of the oils is produced by keeping down the temperature of the exit pipe, so that the hydrocarbon vapors cannot generate or form ammoniacal gases, which they always do when the vapors from crude petroleum or bituminous coal are allowed to pass through the still at a great heat. In accomplishing this, fresh or cool air must be admitted at such points as is necessary to preserve the proper temperature. If the object claimed is really accomplished, this invention would appear to be one of considerable value.

Another improvement in this direction, is announced in the English journals as having been recently patented by W. A. Verel, of Sterling. This improvement consists in a process whereby the distillation of shale or oils is carried on continuously, a separation being effected, during the process, between the spirit and oils of different specific gravities. This object is effected by the introduction within an ordinary still of an internal compartment or cup into which the oil for distillation and the superheated steam or air, which it is found convenient to employ, are admitted, and by acting upon only a small body of oil at once, which, as it distills over, is replaced by fresh oil, the process may be continued for any length of time without intermission. The separation of the different products into spirit and oils of various specific gravities is effected by means of internal gutters or troughs, similar to the gutter around the chemical instrument known as an "alembic," and placed at various heights round the inner sides of the still, into which the heavier oils, which do not rise so high as to pass into the still-head with the lighter portion or spirit, are caught as they condense along the sides of the still. The number of these gutters or troughs may be increased or diminished at pleasure, according to the varieties of oil required. For the distillation of the heavier portions which may flow over the internal cup or basin, it is found convenient to introduce a branch from the pipe containing superheated steam or air into the lower part of the outer shell, to play upon such heavy oil, and cause it to rise in vapor and condense on the sides of the still, whence it is caught by one of the inner gutters or troughs; to further aid this operation, fire-heat may also be applied externally; although the chief portion of the heat employed in this press of distillation is derived from the superheated steam which is admitted, and which passes out in connection with the lighter oils, and from which it is readily separated in the usual manner.

There appears to be decided advantages connected with both of these improvements, which are well worth the attention of all persons interested in the distillation of petroleum.

AN immense quarry of jasper has been opened near St. Gervais, in part of the Mont Blanc range of mountains, by a company who have sent some remarkable specimens to Paris. Some of those specimens are of a beautifully pure red, without veins, somewhat resembling the marble known as the *Russo-Antico* stone. The new opera house in Paris is to be ornamented with twelve columns and forty medallions of this stone, for the decoration of the state saloons.

PANS FOR WASHOE.—Six Knox amalgamating pans have recently been ordered at the Golden State Foundry in this city, for C. C. Stevenson's mill, at Gold Hill, Nevada.

SKILLED LABOR—THE MANUFACTURE OF STEEL.

It is stated in some of the Eastern papers that much difficulty is being experienced by the steel manufacturers of Pennsylvania, in consequence of the impossibility of procuring skilled labor. Some very interesting facts are given, in this connection, with regard to the main features in the production of a certain superior quality of steel.

In making this steel it is necessary that the workmen should not only subject their eyes to the most intense light; but that they should also be able to judge most accurately with regard to the character of that light. The duty required is to look directly into a glowing furnace, distinguish the crucible in its midst, remove the cover and judge accurately of the condition of its contents. But few, even among English workmen are skilled in this operation. There are not many, anywhere, who are able to distinguish even the crucible in the midst of the glowing coals which surround it, much less to remove its cover and accurately scan its contents. The effort of the eye, in this operation, is but little less than that required for gazing directly at the noon-day sun. The unpracticed eye, and especially if a little weak, can merely glance at it; the stronger and less sensitive can dwell for a moment upon its glories; but its surface presents only a glowing, swimming mass. It requires an eye of uncommon power to gaze the sun out of countenance, as it were, by keeping the organ of vision steadily fixed upon the burning orb, until its disk has assumed a well defined appearance and a steady glow, like the moon, but of vastly greater intensity. The writer of this has accomplished the feat in his younger days; but untold wealth would not be an inducement for him to repeat the experiment. Yet the task required of the workman in determining the condition of the glowing steel in the furnace, is scarcely less trying to the eye than that of looking steadily at the sun. In addition to which the power of judging the precise character of the transmitted rays, is something which but few ever can attain.

An experienced Pennsylvania manufacturer recently stated, in the presence of a number of practical and scientific gentlemen, that after persevering efforts, he has himself succeeded in distinguishing the crucible in the furnace, but he could go no further, and that he had thus far, with the aid of an expert, been able to train but one American to properly examine the contents of the crucible. It is said that the experts in this business in England, have formed associations to prevent the emigration to this country, of workmen who can perform this service. The forthcoming report which is to be made to Congress, on the condition and needs of the iron interest, by a special committee, who have recently visited the iron district to collect information to that end, will, it is said, embrace a large amount of interesting and valuable facts.

It seems strange that with the well known and ready applicability of spectrum analysis, to distinguish the characteristics of light, and determining the phenomena of burning media, this useful and delicate instrument has not been more generally introduced in observing the phenomena involved in furnace operations. It is far more delicate and reliable in its determinations than the best trained human eye can possibly become; and is in no wise wearisome or injurious to that delicate organ. All that is requisite for its use is a knowledge of the chemical operations which it is desired to induce or prevent, and the capacity to determine their operations when their spectra are painted, by their own action upon the instrument in the bands of the observer. We have seen the statement that it has been so employed in Europe, in some cases, and that the results were most eminently satisfactory. Cannot some of our scientists apply it to this particular operation, and thus place the Pennsylvanians quite independent of foreign aid. The subject is certainly worthy of consideration, although we are not aware that any suggestion of the kind has ever before been made.

LOWER CALIFORNIA.—J. Ross Browne, the Government Commissioner, for collecting mining statistics on this coast, has been employed by the Lower California Land Company, to make an examination of the peninsula, a portion of which they have lately secured by purchase from the Mexican Government. He will be accompanied by Mr. Gabb, of the State Geological Survey, who will be Chief of Internal Reconnoissance; Mr. Lohr, Topographical and Mining Engineer; and Mr. Randall, Secretary and Interpreter; besides assistants. The party will leave on the next steamer. Mr. Browne's report of the company will include papers by these gentlemen, and also by Doctor Taylor, Dr. Veatch, and others who have made specialties of certain subjects of interest to the company. A topographical survey of the Gulf and its islands will be made; and statistics in reference to those Mexican States which lie upon its Eastern shore will be collected. As the company intends to encourage immigration, a suitable site for a settlement will be selected. In view of the treaty now in preparation, which will convey to the United States some two hundred thousand square miles in the section under consideration—a country embracing within its limits gold, silver and copper mines, and a not inconsiderable pearl fishery, and which, moreover, commands the mouth of the Colorado river, destined to be an important thoroughfare—this expedition will be looked upon by the general public with special interest.

NEW REDUCTION PROCESS.—Mr. James Hitchens, of this city, has recently invented and put into practical operation, at the Union Foundry, quite a novel device for pulverizing quartz, for which he has taken steps to procure letters patent through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. This device consists simply of a cylindrical iron vessel, open at both ends, placed upon an iron table or bed-plate, and, by a crank motion, caused to move back and forth—the crank making about thirty revolutions a minute. The quartz, or any other brittle material, is thrown into this vessel while in motion, the vibrating action of which causes a great commotion and rapid attrition of the mass, which is furthermore aided by the grinding action of the bottom walls of the vessel, or the bed-plate upon which it rests. In order to prevent dust from inconveniencing operations, a cover is loosely thrown over the top of the cylinder while in motion. The arrangement appears to discharge quite freely, and reduces the rock very fine. The one now in operation is about two feet in diameter and two feet high. It will do about as much work as a 600-pound stamp, dropping fifty times a minute, and reduces the rock so fine as to apparently obviate the necessity for any subsequent grinding process. The question to be considered is the wear of the bed-plate and the amount of power required to drive the apparatus. Will the bed-plate wear evenly and without being cut into grooves through which coarse sand may escape? The inventor is determined to give the device a thorough trial, the results of which we shall report in full.

MACHINERY FOR MEXICO—QUICK WORK.—The Miners' Foundry received an order the past week, for an 8-inch cylinder steam engine, to be completed in four days, so as to be ready for the Mazatlan steamer. The engine was delivered on the morning of the fifth day, every part of which, including a heavy bed-plate, cast in sections for convenience of packing, was manufactured from the rough. The whole was all done within regular working time, there being no night work put upon it. This engine is designed for the Balajaqui copper mine, located a short distance inland from Guaymas, and owned by R. C. Jones. We notice the above as an instance of pretty rapid work, with great facilities for doing the same. The improved political condition of things on the Pacific coast of Mexico, will doubtless cause a new impetus to mining matters there, the effect of which will be most advantageously felt in this city, in the increased demand for machinery and mining supplies.

TO WRITE IN THE DARK.—Mr. John Synnot, of this city, has devised a very neat and simple apparatus by which any person may be able, after a little practice, to write in the dark. When folded up it presents the appearance of a small writing case, with a drawer for paper. On opening it a frame is presented, under which a sheet of paper may be placed and securely held, while guided by certain movable wire rods extending across the same, the writer may indite his words, in direct lines across the sheet, while his progress is followed up by a sort of sliding check, which keeps his place if he has occasion to leave his work, so that he may always know exactly where to begin again, when he returns. The rods are held in notches upon the opposite sides of the frame, and moved down the sheet, line by line, as the writing progresses. After the letter has been written and folded, the same instrument enables the writer to properly place upon the envelope the address, etc. A patent for the invention has been applied for through the Mining and Scientific Press Patent Agency.

POSTAL TELEGRAPH.—Leading members of Congress are said to be in favor of a telegraph line from Washington to New York, to be placed under the control of the Postmaster General, and declared a post route; each message to bear a one-cent stamp for a given number of words. We consider this a step in the right direction; and look forward to the time when the "lightning line" will, in a great measure, take the place of the present comparatively "slow coach" mail transportation. We believe that a Government telegraph, with a charge of say ten cents for every ten words or less, would be a paying institution. Of course, the mail routes would not be done away with. Business messages would be sent by the wires; but the voluminous effusions of gushing school-girls must, of course, be entirely beyond the means of any "parient" but a Hayward or a Pierce.

PATENT OFFICE CHANGES.—Recent changes in the examination of models and preparation of patents have been made in the Patent Office, which will result, it is expected, in saving to the Government of from forty to fifty thousand dollars a year. The specifications of models, which have been heretofore written by copyists, are in future to be printed. One hundred and eight copyists are now employed in writing these specifications, so numerous are the demands for certified copies of patents from the department.

ARIZONA INDIANS.—Governor McCormick, of Arizona, arrived in this city a few days since. His visit is at the request of the citizens of that Territory, and his object is to lay before the military authorities the immediate necessity for more efficient protection against Indians. It is high time that the Government take such measures as will result in their extermination. The savage, relentless, murderous hate which they exhibit towards even their best friends among the whites, is sufficient evidence that a conciliatory course would be thrown away upon them.

FOSSILS IN SANTA CRUZ.—The *Sentinel* speaks of some specimens of marine fossils which Mr. Matherson, the County Surveyor, procured in "Section 1, town 10, south range, 2, west, Mt. Diablo meridian." The whole mountain, 3,000 feet above the sea level, is one mass of these fossils, imbedded in a lime cement.

THE SUTRO TUNNEL COMPANY ask only \$400,000 from the mining companies as a starter, to be paid in instalments as the work goes on. The rest of the amount required will be subscribed at the East.

HANSCOM'S CRUSHERS.—Some months since, the Ogden and Vivian mills, in Nevada, ordered two of the above named machines, which we learn are working satisfactorily.

AMALGAM SPECTING has become a very common occurrence in the Washoe mills. About twenty of the prominent millmen have organized themselves into a detective association.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, new and important inventions, also, the list of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with dispatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

DESULPHURIZING ORES.—Messrs. Tait and Avis, of New York, have patented the process of desulphurizing sulphurets by a current of heated compressed air, propelled by a suitable pump, in combination with a closed furnace containing the ore. Also the use in this process of nitric acid gas in combination with the atmospheric air; also the use of steam in combination with the heated air.

COMPRESSED PEAT promises to become valuable for other purposes than fuel. A patent has been taken out, by which picture frames, book backs, card paper, moldings and decorations for furniture, brick for building purposes, fronts for stores and dwellings, and all other purposes in which bone, india rubber and gutta percha are component parts, can be manufactured from peat.

A NEW MODE OF DEEP SEA SOUNDINGS.—Mr. Sidney E. Morse of New York has recently obtained a patent for a new philosophical instrument, which he calls a "bathometer." When thrown overboard, it goes to the bottom, and on being brought to the surface, the greatest depth of water is found indicated by a scale, very much as the degree of heat is noted on a thermometer. The depth of water is determined by the pressure to which the instrument has been subjected.

BINDER FOR SEWING MACHINES.—George Vincent, Stockton, Cal.: I claim the combination of the plates, A and C, with blocks, G, and its spur, H, operating substantially as above described and for the purpose set forth.

PASTRY ROLLER.—Joseph S. Foster, San Francisco, Cal.: I claim the combination of the revolving board, B, the roller, C, the adjustable guide racks, D, D, with the rods, e, e, e, e, operating substantially as and for the purpose specified.

BALANCED SLIDE VALVE.—John Loehhead, San Francisco, Cal.: I claim the over-hanging edge or flange, e, of the ring, D, in combination with opening, b, in the valve, D, and with the inner surface of the steam chest cover, constructed and operating as described.

RECENT INVENTIONS.

A NOVEL FIRE EXTINGUISHER.—A novel fire extinguisher has been tried in England with most successful results. It consists of a brass vessel, similar to that equipped with an ordinary soda fountain. This fountain is charged with due proportions of water, carbonate of soda and tartaric acid. The result is a factitious soda water. The "fountain" is strapped upon the back of an individual, with a small short hose attached. By turning a stop-cock the fluid material is allowed to escape, and under a pressure of sixty or seventy pounds to the inch, projects a stream some thirty or forty feet. The nozzle of escape is not more than one-eighth of an inch in diameter; yet such an amount of carbonic acid is discharged as to produce a most wonderful effect upon so much of the fire as comes within its reach; not even a spark is left—the fire is absolutely annihilated. For the extinguishment of incipient fires in buildings, etc., such an apparatus might doubtless prove of essential service, and for such purposes, prove valuable adjuncts to the ordinary fire apparatus.

PROTECTION TO FIREMEN.—An invention, designed as a protection to a fireman, on his entrance into a burning room has recently been tested in Quebec. It consists of a finely perforated brass ball, attached to the inner extremity of the brass nozzle of the hose, which acts as a powerful rosette, throwing a heavy spray upon his person, while he is directing the main stream upon the fire before him—thus smothering the flames all around the holder's person.

STILL ANOTHER IMPROVEMENT in the way of fire extinguishing apparatus, has recently been devised by Mr. H. J. Johnson, of Providence, R. I., the object of which is to retain the water in the hose, at full pressure, when the engine ceases working. A faucet is attached to the nozzle, which shuts back the water whenever desirable, and the extra pressure operates upon a delicately-adjusted valve, in an attachment to the engine, and which in fact becomes a part of it, which opens and permits the water to flow back into the engine. This relieves both hose and engine from any extra pressure. The engine continues working as long as may be desirable, the water in meantime circulating through the valve, which ceases the instant the nozzle is opened and the water begins to flow through the hose.

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, in which the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE.

Patent Agents, 505 Clay street, San Francisco.

LIGHT AND HEAVY STAMPS, AGAIN.—In our issue of the 15th inst., we copied a portion of an article from the *Colorado Journal*, in which is given Mr. Bertola's opinion of 350 pound stamps. The *Amador Ledger* quotes this, and makes the following remarks:

"Experience has not settled the question of 'light vs. heavy stamps' in this State, of quartz mills, but 350 pound stamps are now rarely met with. The range is from five to seven hundred, with a strong prejudice among experienced millmen in favor of the latter. Colorado must be far behind the times—350 pound stamps, 'dropping thirty times a minute.' The average here is over seventy, and even sixty for the heaviest stamps would not be tolerated."

Our millmen, we believe, all agree now that 350 pound stamps are too light for common use, although they may be suitable for very soft rock. The weight of stamps should depend something upon the character of the rock worked. Some experts say 450 pound stamps are heavy enough for any use. A greater number, however, prefer those weighing from 500 to 600 pounds. In crushing soft rock the stamp can be raised to a less height than for pulverizing hard ores. The 700 pound stamps, in ordinary hands, doubtless crush faster than the 500 pound, but it is questionable whether their work is not accomplished at a sacrifice of power, and with greater wear and tear of the machinery. Large stems with stamps of small diameter are well calculated to economize the power which is sometimes in a measure lost with large stamps when the rock lies on one side of the center; the blow being in that case less direct. This subject is one upon which we would like to hear the views of practical workers.

SALT IN NEVADA STATE.—Nearly three years since, we noticed in our columns the "Sand Springs" salt mine, situated on the road from Virginia City to Austin, and about seventy-five miles from the latter place. A mill has recently been erected on the Divide between Virginia and Gold Hill, for the grinding of the salt for table use. It is, according to the *Virginia Union*, two stories high and fifty feet long. Durr stones reduce about one ton per hour. This salt is found to be an excellent article for curing meats, for butter making, and for table use generally. Large quantities are used in the quartz mills in the neighborhood for amalgamating purposes. The affairs of the company are said to be in a prosperous condition. For the amount of money invested, it is one of the best paying institutions in the State of Nevada.

City Amusements.

METROPOLITAN.—At this house the attendance has been good, notwithstanding the bad weather. The Howsons and Edouin have appeared in "Deeds of Dreadful Note," "Kiss in the Dark," etc., followed by the ballet. "The Star of the Rhine" was withdrawn, and the "Boquet" substituted during the week. The concluding pantomime, "The Golden Egg," which has been very successful, gives place this week to "Jocko, or the Brazilian Ape."

OPERA HOUSE.—Lady Lou's engagement is drawing to a close, and those who see her before she leaves for the East, must go soon. The burlesque of "Lalla Rookh" has been the principal feature of the week.

ACADEMY OF MUSIC.—The Japanese are still drawing crowded houses by their wonderful feats of skill and strength, which must be seen to be appreciated. This week they have introduced a six-ladder feat, which is one of the most difficult yet given. The performance on the rope exceeds anything of the sort ever attempted in this city.

STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the MINING AND SCIENTIFIC PRESS.

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The MINING AND SCIENTIFIC PRESS PATENT AGENCY has strictly complied with the requirements of the Department, and properly filed all necessary papers as Claim Agents.

Postage.—The postage on the MINING AND SCIENTIFIC PRESS to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

CHEAP SULPHUR.—It is claimed that the Hudson River Copper company will soon be able to lay down sulphur in New York at one-fourth the cost of Sicilian sulphur. They will obtain their supply from the sulphurets of iron or mundaic overlying the copper veins of the Hudson river. If sulphur can be thus materially reduced in price, it will prove of immense advantage to petroleum refiners, as well as to all the various arts which require in their present condition any very considerable quantity of sulphuric acid.

NATURAL CERIOSTIES FOR CHRISTMAS.—At No. 522 Pine street, E. F. LONGCIN, the Naturalist, has on hand a beautiful assortment of glass globes full of Stuffed Birds, Shell, and Wax Flowers, besides Feathers, Birds and Butterflies, for ladies' hats, Shells, Sea-weeds, etc. 21v13-qr

Air Pump for Sale.—One of Tate's Double-Action Air Pumps, in prime order, can be had at a bargain, by applying soon at this office, or to JOHN ROSEN, mathematical instrument maker, 522 Montgomery street. 21v13-9p

TOWNE & BACON, Print—

Stock Certificates, Assessment Receipt Books, Transfer Journals, Circulars, Hand Bills, Cards, Billheads,

And every kind of Job Work that may be desired. A NEW ARTICLE OF TAGS FOR GROCERS' USE. 16v12 536 Clay street, opposite Leidesdorff.

OIL! OIL!! OIL!!!

—OUR—

MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO GUN.

Dell, Cramma & Co.,

511 1-2 and 513 Front street, San Francisco IMPORTERS OF

COAL OILS AND LAMP STOCK. 21v12-3m5p

ALLEN'S LUNG BALSAM!

For the Cure of Consumption and all Diseases of the Lungs.

This BALSAM is introduced to the suffering public after its merits for the positive cure of such diseases have been fully tested. The formula from which it is prepared is referred to by the leading medical journals as being equal to any prescription that can be made up, for such diseases, by the medical faculty. The BALSAM is, consequently, recommended by physicians who have become acquainted with its great success. As an expectorant it has no equal. DR. A. L. SCOVILL, who has, for many years, been known to the public throughout the United States as the inventor of remedies for the lungs, recommends ALLEN'S LUNG BALSAM as surpassing anything that has ever been offered to the public for the cure of Lung Diseases. He has used it in his own family with great success in the case of his sister, who was supposed to be in the last stages of consumption. This lady is now well, and has been permanently cured by Allen's Lung Balsam. 22v13-1m

A. S. Hallidie & Co.,

MANUFACTURERS OF FLAT OR ROUND WIRE ROPE, For Mining, Shipping, Ferry, AND GENERAL PURPOSES.

Office—412 Clay street. Works—North Beach, SAN FRANCISCO.

NOTICE.—THE FIRST COST OF WIRE ROPE IS MUCH less than that of any other kind of Rope of equal strength, and it is four times as durable. Wire Rope does not stretch or shrink by atmospheric changes; it has but one-fourth the bulk of Hempen Rope; is spliced and repaired in the same manner. The attention of Mining Companies is particularly called to our Flat and Round Hoisting Ropes, which have been in use for a number of years by the leading mines on this Coast, and to any of whom we prefer these interested as to the great advantages over any other kind of rope; effecting an immense saving in expenditure for ropes, fuel, wear and tear of machinery, stoppage of works, etc., besides increasing safety of life.

Mining Companies, in erecting Hoisting Works, should be sure and have their drums and pulleys of sufficient size, whether wire or hemp rope, to prevent the rope from chafing. We manufacture of all sizes, and in any length—

Round Wire Rope—Iron or Steel, for Hoisting.

Flat Wire Rope—For Derrick Fall Ropes—very strong and durable—one third the weight of hemp of equal strength, (saving in freight for remote localities). Suitable shores and blocks furnished when required.

Galvanized or Ungalvanized Round Wire Rope—for Ships' Rigging, Derrick Gays, Ferry Ropes, and all standing purposes.

Steel Wire Ropes—For wide streams. Ferry Blocks supplied.

Iron and Copper Wire Cord— $\frac{1}{2}$ to $\frac{1}{4}$ inch diameter, for hanging window shades; Signal Cord; Sash Pulleys on band.

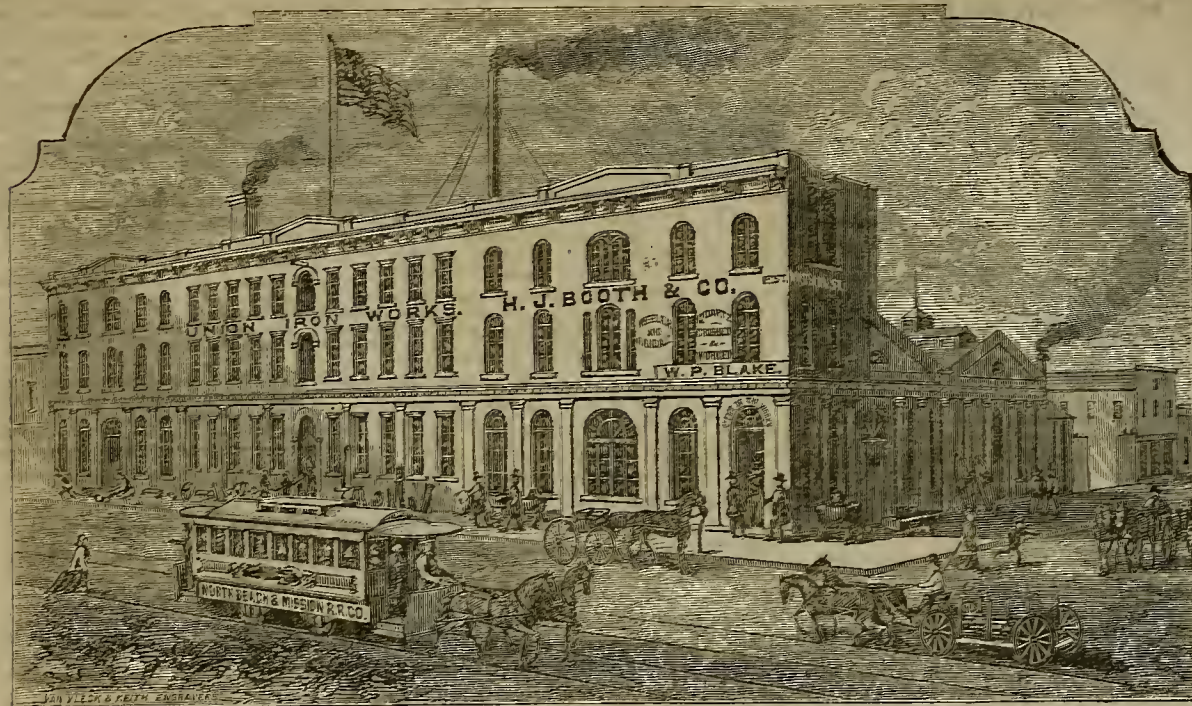
Comparative Weight, Size and Strength of Iron Wire Rope, Steel Wire Rope, Hemp Rope, and Chain.

Iron Wire Rope.	Steel Wire Rope.	Hemp Rope.	Chain.	Equivalent Strength.
Cir. 100 ft.	Cir. 100 ft.	Cir. 100 ft.	Link 100 ft.	Link 100 ft.
2 1/2	2 1/2	1 1/2	2 1/2	2 1/2
3 1/2	3 1/2	2 1/2	3 1/2	3 1/2
4 1/2	4 1/2	3 1/2	4 1/2	4 1/2
5 1/2	5 1/2	4 1/2	5 1/2	5 1/2
6 1/2	6 1/2	5 1/2	6 1/2	6 1/2
7 1/2	7 1/2	6 1/2	7 1/2	7 1/2
8 1/2	8 1/2	7 1/2	8 1/2	8 1/2
9 1/2	9 1/2	8 1/2	9 1/2	9 1/2
10 1/2	10 1/2	9 1/2	10 1/2	10 1/2

Pamphlets containing data, with prices appended, forwarded free, by mail or express, on application to manufacturers. 22v13-6m5p

To Capitalists.

GOLD QUARTZ MINE, SITUATED IN CALAVERAS County, with steam mill fitted up with Amalgamating Pans, etc. FOR SALE. The mine has three main veins, and more than \$50,000 have been spent in opening them and completing the mill. Good wagon roads all the way. Apply to BELLOZ FERRES, Bankers, 535 Clay street, San Francisco. 23v13-6m



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Ram, Box, Screw and Drop Presses, Combing Machinery, File Drivers, Bark and Malt Mills and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotive, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS.—Locomotive, Flue, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's improved Tractory Curve Pan, Zeiss Wheeler's improved flat bottom pan, Bellini's pan, Veach's table, Prater's concentrators, Wallace's pans, Beer's pan, German Patents, Aranza Gearless, Galle Mills, Sellers of all descriptions, Reports of all sizes and shapes, for silver and gold, Portable Flange Mills, Sprague Batteries, for wood or iron frames, Dry Crushing Batteries or machines with the latest improvements, every variety of Stamp, Mortar, Cam, Pans and Tube. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron screws, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH & CO.

Machinists and Foundries.

PALMER, KNOX & CO.,
Golden State Iron Works,
Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight;
without excessive friction, and never
gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel,
Giving the greatest power, at lower cost, than any
Wheel in use; over 1500 running,
giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies.

Having been engaged for the past eight years in quartz
mining, and being conversant with all the improvements,
either in Mining or Milling, we are prepared to furnish,
at the shortest notice, the most perfect machinery for reducing
ing ores, or saving either gold or silver. 13v11v11

WILLAMETTE IRON WORKS,
PORTLAND, OREGON.

Steam Engines, Boilers,
SAW AND CRIST MILLS,
MINING MACHINERY, WROUGHT IRON SHUTTER
WORK, AND BLACKSMITHING IN GENERAL.
Corner North-First and E streets,
13v13-ly One block north of Conch's Wharf.

UNION IRON WORKS,
Sacramento.

WILLIAMS, ROOT & NEILSON.

MANUFACTURERS OF
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.

Also, Hay and Wire Presses made and repaired
with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old cylinders, manufactured
to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

JOHN WRIGHT,
Pick Manufacturer,
No. 220 Fremont street, between Howard and Folsom,
SAN FRANCISCO.

Bas always on hand a general assortment of PICKS for
Quartz and Surface Mining.
Particular attention is called to his RAISED EYE
QUARTZ PICK, which is especially adapted to Quartz Min-
ing, and guaranteed to give good satisfaction. 13v13-ly

GEORGE T. PRAOY,
MACHINE WORKS,
Nos 109 and 111 Mission street, between Main and Spear,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses.

—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND
REPAIRED.

Special attention paid to Repairing. 13v13-ly

T. C. DURNING. J. F. FISHER.

PACIFIC FILE FACTORY
No. 53 Beale Street,
Between Market and Mission streets, San Francisco.

FILES REBUILT AND WARRANTED AS GOOD AS NEW,
or no charge. The only establishment in the State.
We also manufacture Reapers and Mower blades.
13v13-ly **DURNING & FISHER, Prop'rs.**

LEWIS COFFEY & RISON,
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment in the
Pacific Coast owned and conducted by Practical Boiler
Makers. All orders for New Work and the repairing of Old
Work, executed as ordered, and warranted as to quality.
Old Stand, corner of Bush and Market streets, opposite
Oriental Hotel, San Francisco.

GLOBE
Foundry and Machine Shop,
STOCKTON, CAL.

KEEP, BLAKE & CO.,

MANUFACTURERS OF
Quartz, Saw and Grist Mill Irons, Steam
Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons,
Horse Fronts, Iron Fencing, Railway Railings, etc.,
at San Francisco prices. Orders solicited
and promptly executed. 13v13-ly

Pacific Forge Company.
FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST REEECT
ed, in this city, on Fourteenth street, near the machine
shop of the San Jose Railroad, a large establishment for the
purpose of forging and working in wrought iron. Our man-
mer is the largest upon this coast, and we are prepared to
manufacture, at short notice, all kinds of heavy forgings,
car axles, shafts, steamboat cranks, piston-rods, wagon
axles, and other similar work. This is the first general
patronage of the kind erected in this State, and we solicit the
patronage of the public. All orders executed at reasonable
rates, and with promptness and satisfaction. 13v13-ly

BACON & STEWART,
PRACTICAL MACHINISTS,
No. 51 Beale street, San Francisco.

All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING, PRESS work.
All jobs entrusted to us will be attended to with prompt-
ness and on reasonable terms. The patronage of Printers
is respectfully solicited. 13v13-ly

HANSCOM & CO.,
Etna Iron Works!

Southeast corner Fremont and Tehama streets,
SAN FRANCISCO.

Practical Machinists and Iron Foundries,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS.
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Re-
quires no springs or screws; is always steam tight; without
excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER.
The best of the kind now in use in this State or anywhere else.
Wheeler & Randall's New Grinder and
Amalgamator,
Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,
Giving greater power, at lower cost, than any wheel in use.
Send for one of our circulars giving full tables.
All Wheels warranted to give the power as set forth, or
the money will be refunded.

Sole makers for this coast of the "Pendergast
White Iron Stamp Shoes and Dies.
None genuine unless obtained from us. Every one war-
ranted.

Patented Machinery of all kinds will be furnished by us
at market prices. Particular attention given to drawings
and specifications of machinery, which will be made to
order. The patronage of the public is respectfully solicited.
13v13-ly

FULTON
Foundry and Iron Works.

HINCKLEY & CO.,

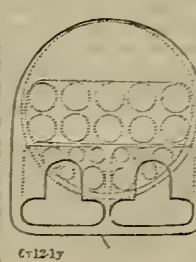
MANUFACTURERS OF
STEAM ENGINES,

Quartz, Flour and Saw Mills,
Moore's Grinder and Amalgamator, Brodie's
Improved Crusher, Mining Pumps,
Amalgamators, and all kinds
of Machinery.

Nos. 45, 47 and 49 First Street, between Market and Mis-
sion street, San Francisco. 13v13-ly

NEPTUNE IRON WORKS,
Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MARINE.
Locomotive,
And all kinds of
HIGH PRESSURE
Steam Boilers
MADE.
All Boilers guaranteed and
tested by U. S. Boiler In-
spector before sent out of
the Shop, at Shop expense.
All kinds of Sheet Iron and
Water Pipe, Coal Oil
Pipes, Wrought Iron
Work, etc., etc.
Manufactured to Order.
Old Boilers Repaired.
D. CAMERON.



PETROLEUM AT THE PARIS EXHIBITION.
Governor Curtis, of Pennsylvania, has deter-
mined that the petroleum resources of this
country, and that State in particular, shall be
fully and properly represented at the Paris Ex-
position. To that end he has appointed Mr.
J. T. Briggs, of Titusville, a Commissioner to
Paris, to have this special business in charge.
Mr. Briggs is now engaged in making up a full
collection of samples from the various States.
California will be there, of course, as our Com-
missioner has already prepared a full set of
samples, crude and refined, wherewith to illus-
trate our resources in that direction. Petro-
leum has come to be one of our most important
articles of export, and it was a happy thought
of Governor Curtis to make it thus a specialty.

HOW TO PRESERVE FISH.—A foreign sci-
entific journal says an excellent mode of causing
fish to retain its freshness for a considerable
time, during the hottest weather and very long
carriage, consists in making with bread crumbs
and a sufficient amount of strong spirits of
wine a paste of considerable consistency, filling
the mouth and gills of the fish with it, then
wrapping the whole in fresh nettles, and plac-
ing outside an envelope of straw. Fish treated
in this way have been carried very great dis-
tances during the hottest part of the sum-
mer.—Exchange.

The paste employed as above, would be
perfectly innocuous, while it would form a
most excellent absorbent for the gases which
might be produced. The straw is employed
on account of its well known properties as an
extremely bad conductor of heat.

One can now breakfast in Sacramento, pluck a
rose from the bush before his door, lunch in
Cisco, 6,000 feet above the level of his break-
fast table, where he is surrounded with snow
and ice fields which remind one of Alpine
scenery, and returns to his home to dine. All
the time, too, enjoying a fragrant Havana in a
luxurious car—that is, if he has got the
Havana. Those herculean engines have so far
found no difficulty in driving snow ploughs of
sufficient size to keep the track clear of snow.

CALIFORNIA BRASS FOUNDRY.
No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal
Castings, Brass Ship Work of all kinds, spikes, Sheathing
Nails, Redder Braces, Hinges, Ship and Steamboat Bells and
Gongs of superior tone. All kinds of Cocks and Valves, Hy-
draulic Pipes and Nozzles, and Hose Couplings and Connections
of all sizes and patterns, furnished with dispatch.
PRICES MODERATE. 13v13-ly

V. KINGWELL. J. H. WEED.

SAN FRANCISCO
Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of
Marine and Stationary Engines
Quartz Machinery, Saw, Flour and Sugar Mills, Mining
Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Cider, Cotton and Tobacco Presses
of the latest improved Patterns.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and
Dies warranted to be made of the best white iron.
Dunbar's Improved Self-Adjusting Piston-
Packing, requires no springs or screws; always steam-
tight; without excessive friction, and never gets slack or
leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at
the lowest market rate.
13v13-ly **DEVORE, DINSMORE & CO**



JAMES MACKEN.
COPPERSMITH,
No. 226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best
manner. Particular attention paid to Steamboat, Sugar
House and Distillery work.

Repairing promptly and neatly attended to. 13v11

JOHN LOCHHEAD'S
Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DUNBAR'S PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland
navigation is called to the

Superior Workmanship

of Mr. LOCHHEAD, who has been in the business in San
Francisco for the last fourteen years, and enjoys the re-
putation of having built ONE HUNDRED AND SEVENTEEN
STEAM ENGINES.
Screw Propellers of all kinds and Steam Boat Machinery
generally, made to order, and warranted to give perfect
satisfaction in every particular. 13v13-ly

ANOTHER MINING SWINDLE.—The New Yorkers were very much excited, a few weeks since, over the collapse of a mining company, known as "The Downville Gold Mining Company," with a capital stock of \$200,000, in shares of one dollar each. By a careful manipulation, the managers who put the stock in the market at thirty cents, soon succeeded in running it up to par, and a few days afterwards to nearly 200 per cent. premium. The stock was, in reality, not worth the paper upon which it is printed. Nearly the entire amount of the stock is supposed to have been palmed off at an exorbitant figure. It is known that one party was victimized to the tune of \$22,000, two others to the extent of \$10,000 and \$13,000 respectively, and a fourth for \$7,000. A large amount was got off in small lots. Some of the victimized parties have commenced suits against the operators for obtaining money under false pretences.

BELLAMBI COAL!

A SUPERIOR ARTICLE OF

SMITH'S COAL,

FOR SALE IN QUANTITIES TO SUIT,

At Greatly Reduced Rates.

Sacked to order for Shipment to the Country.

Apply to

FLINT, PEABODY & CO.,

408 CALIFORNIA STREET, San Francisco.

Bell's Assay Office.

THE UNDERSIGNED, HAVING FORMED A COPARTNERSHIP this day, would inform the former partners and the public generally, that they will continue the ASSAY BUSINESS in all of its branches at the old stand,

No. 514 California street,

One door west of Montgomery, San Francisco, with the same employes, under the name of Rogers & Brown. MR. EDWARD WOLFFER, for the last seven years Assayer for Mr. Bell, will have charge of the Assay Department.

The Melting Department will be under the charge of MR. HENRY J. FISHER, for ten years in the United States Mint at New York and Philadelphia, and for the past seven years with Mr. Bell.

We would inform photographers that we are prepared to work their chloride of silver and ashes from their paper city plates.

We have, in connection with our Assay business a MILL and are prepared to

WORK GOLD AND SILVER ORES,

In quantities from 25 to 50 pounds; also, Assayers' Sweeps.

GEORGE E. ROGERS,

H. W. BROWN,

October 13, 1866.

QUINCY HALL

CLOTHING EMPORIUM!

345, 347 and 349 Washington street,

(Near Montgomery),

SAN FRANCISCO.

For a Dress Suit,

A Business Suit, or

A Working Suit,

GO TO QUINCY HALL!

For Shirts, Collars, Drawers, Undershirts, Socks,

Ties, Gloves, or any other FURNISHING GOODS,

GO TO QUINCY HALL!

For Hats, Caps, Trunks, Valises and Carpet Bags,

JUST GO TO QUINCY HALL!

If you want a SUIT MADE TO ORDER, of Foreign or

Domestic Cloth,

ALWAYS GO TO QUINCY HALL!

IT IS THE LARGEST AND CHEAPEST CLOTHING HOUSE IN SAN FRANCISCO.

All Goods Warranted as Represented

—AT—

QUINCY HALL,

Nos. 345, 347 and 349 Washington street,

19-13-3m Next to Montgomery.

HAYWARD, COLEMAN & CO.,

IMPORTERS AND REFINERS

—OF—

Illuminating, Lubricating,

—AND—

PAINT OILS!

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR,

TANNERS', NEATFOOT, BOILED AND RAW

LINSEED, CASTOR AND CHINA NUT.

—ALSO,—

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of MILL owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning out.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

Lamps and Lamp Stock!

An elegant and complete assortment on hand.

4-13-3m19 414 Front street, San Francisco.



PACIFIC IRON WORKS.

THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The premises of the above Works invite the attention of all parties interested to their greatly improved and equipped facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Panning and Grinding Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the latest improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryon Battery, Varney's Amalgamators and Separators, Kyrson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully solicited.

GODDARD & COMPANY.

DR. O. DUNNING.

Respectfully informs the public that he treats ALL DISEASES the human system is afflicted with, and can be cured at his office.

Rooms Nos. 13 and 14 Government House

Corner Washington and Sansome streets.

19-13-3m SAN FRANCISCO, CAL.

NEW YORK PRICES.

WATCH REPAIRING AT NEW YORK PRICES.

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WATCH REPAIRING AT NEW YORK PRICES.

REMINGTON'S ARMORY.

Agency, 310 Washington st., San Francisco.

PRICES REDUCED!

These arms have been preferred by the United States Government, and stand unqualed by any in the world. Revolvers, Army, Navy, Belt and Pocket, Double and Single Action; Repetition, and vest-pocket Pistols with copper ammunition; Police Revolvers, a new model, have size ball, 4 to 6 inch barrel; Rifle Guns, an entirely new Arm—having a range and accuracy equal to a rifle, and a most perfect Case. All the new models for sale very low.

12-13-3m

ALBERT E. CRANE.

Arm—having a range and accuracy equal to a rifle, and a most perfect Case. All the new models for sale very low.

12-13-3m

Arm—having a range and accuracy equal to a rifle, and a most perfect Case. All the new models for sale very low.

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Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines.
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Drawings of Models made for parties applying for patents at Washington or London. mar23-tf.

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Between Montgomery and Kearny Streets
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OCULIST,
Office of Dr. Beckford's "Golden Eye Water,"
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Stock Broker,
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San Francisco Stock and Exchange Board,
Buys and Sells Stocks, Bonds, Etc.
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Are the best made in the city. An examination of their specimens before going elsewhere, will prove the truth of the above assertion. Prices—the lowest adopted by the Association of Artists. Remember the place, 611 Clay street. 11v13-2m

GEORGE H. POWERS, M. D.,
Gives exclusive attention to
Diseases of the Eye.
No. 626 California street, between Dupont and Kearny.
Dr. Powers refers, by permission, to Rev. A. L. Stone, D.D., Ira P. Rankin, Esq., L. B. Benchley, Esq. 17v13-6m

Baldness! Baldness!!
CAN BE PREVENTED, BY USING
Mayhew's Balsamic Hair Stimulant!

THIS REPARATION HAS BEEN USED AND RECOMMENDED by some of the most prominent members of the medical profession of this city.

For the removal of DANDRUFF, SCURF, for preventing the hair from falling off, and for producing a new growth, IT IS WITHOUT A RIVAL.

For particulars and references, see circulars accompanying each bottle. Prepared by

W. E. MAYHEW, Druggist,
N. W. Corner Fourth and Howard streets San Francisco.

He gives his personal attention to the preparation of Physicians' prescriptions.

Also, has constantly on hand a choice assortment of French, English and American Toilet Articles 16v13-6w

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OUR IMMENSE STOCK
—OF—
Fine Custom Made Clothing

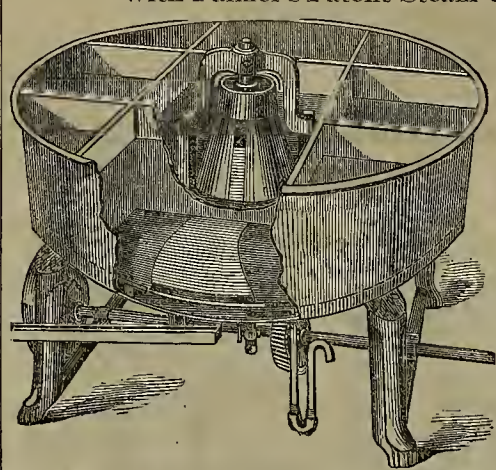
—AND—
Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

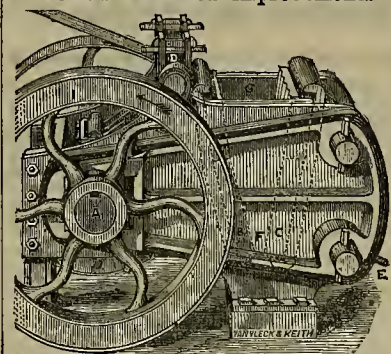
A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.

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Our Circulation.—The MINING AND SCIENTIFIC PRESS has a large and permanent subscription list, and enjoys a more universal circulation among stockholders and persons directly interested in mining than any other paper on this coast.

Knox's Improved Patent Amalgamator and Separator,
With Palmer's Patent Steam Chamber or Die.

For further particulars, inquire of
ISRAEL W. KNOX, or
W. A. PALMER, Inventors,
At the Golden State Iron Works, No. 19 First street, San Francisco.
14v13-pl2q

Machinery.
Brodie's Patented Improvements

FOR THE TREATMENT OF
Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER.
The attention of all interested in Mining is respectfully called to this improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertiser is enabled to offer these machines to the public at the following low terms:
No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....\$600
No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour.....\$850
No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour.....1,200

EXPLANATION OF THE ABOVE ENGRAVING.
The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:

RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1866.
JAMES BRODIE, Esq., San Francisco—My Dear Sir: I give you pleasure to inform you that, for the past three months had one of your largest sized Rock Crushers in use at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,
R. P. JOHNSON,
Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st No. vember, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

BRODIE & RADCLIFF,
Express Building, 402 Montgomery street, San Francisco.
12v13tf

Notice to Miners,
Well-Borers and Water Companies.

M. FRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing, &c.

M. FRAG,
8v13-ly Stove Store, No. 125 Clay street, below Davis.

Such a journal has been needed on the Pacific Coast. The Press fills the bill. [Reese River Reveille.]

THIS CUT REPRESENTS AN AMALGAMATOR AND SEPARATOR THAT HAS STOOD THE TEST OF EIGHT YEARS' practical working in the gold mines of California, and for nearly the same time in the silver mines of Nevada, having been introduced into the first steam mills built in the then Territory, since which time they have been successfully working against all competition.

The great advantages these Amalgamators have over any others, are—

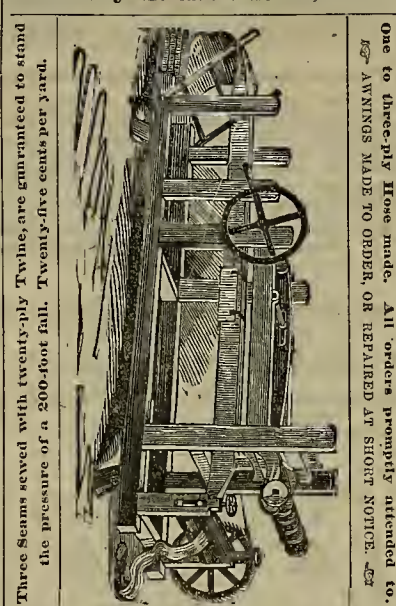
1st. Much less Cost.

2d. They do not "flour" the mercury, and collect any that may have been "sleekened" in the battery or grinders.

3d. The "sloshing" motion given to the pulp (by the revolution of the miller under the stationary frame) against the amalgamated copper plates that are fastened to the frame, and by this means catching the fine gold and mercury that will not settle.

4th. The gate in the cone, through which the pulp is discharged, from the top, and where there is the least motion, almost precluding the possibility of any granulated mercury or fine gold escaping.

There are over 500 of them in use in California and Nevada, where those interested can see their practical workings.

PATENT HYDRAULIC HOSE SEWING
By S. HOWARD,

Three Seams sewed with twenty-ply Twine, are guaranteed to stand the pressure of a 200-foot fall. Twenty-five cents per yard.
One to three-ply Hose made. All orders promptly attended to. SEWINGS MADE TO ORDER, OR REPAIRED AT SHORT NOTICE.
No. 326 DAVIS STREET, San Francisco.
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Steam Pumps,
FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.
PICKERING'S GOVERNORS

For Steam Engines.
Giffard's Injectors,
For Feeding Boilers.

STODDART'S IRON WORKS,
114 Beale Street, San Francisco.
22v12-5m

STRONG & CO'S
CELEBRATED UNION PAN!

A fast Grinder and thorough Amalgamator, has double Millers, holding the millers in position by a reverse action. Millmen and others are respectfully invited to examine this Pan, before purchasing others, as it gives the best satisfaction. Can be seen in operation daily, at the San Francisco Foundry, Fremont street, near Mission.
Ores, in lots not exceeding 200 pounds, tested by
22v13 G. W. STRONG, Assayer.

NITRO GLYCERINE.
Nobel's Patent Blasting Oil!

WE ARE NOW PREPARED TO SELL NOBEL'S PATENT Nitro Glycerine. The same is stored with Mr. C. S. SWENSON, at Michigan Bluff, Placer county, from where the Oil has to be received by purchasers.
Application to be made to Mr. C. S. Swenson, or to the undersigned.

IGNITERS AND CARTRIDGES!

For sale at the same place.

Mr. Swenson is willing, if desired, to show purchasers the mode of blasting, either at his own mine, Michigan Bluff, or at the places of purchasers.
Pamphlets, with minute instructions, will be presented to every purchaser or applicant.

BANDMANN, NIELSON & CO.,
21v13 210 Front street, San Francisco.

FOR SALE!
QUARTZ AND MINING MACHINERY

ONE GARDNER'S THUNDERBOLT CRUSHER, LARGEST size and best quality; is entirely new, with all extras—with a large lot of other Quartz Machinery, including Engines, boilers, etc.
16v13 **COFFEY & RISDO**

Ready for the Steamer "Colorado,"
On the 1st of January, 1867.

TO BE PUBLISHED ON THE DEPARTURE AND ARRIVAL of the Pacific Mail Company's steamer to and from China.

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FLYING DRAGON
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Printed both in the English and Chinese languages, for China, Japan, Australia, Burmah, Siam, Malacca, Singapore, Hindostan, etc., etc.
One of the immediate and most striking results of this mutual intercourse, will manifest itself in the fact that this country will be

EIGHT DAYS
Ahead of Europe in its commercial intercourse with the countries of the East; and ultimately this line of communication must be the preferred route of the silk trade, etc., instead of the Suez route.

The price of the "California China Mail" will be
Twenty-five Cents per number—Annual Subscription, including Supplements, \$10 per Annum.

Advertisements, business notices, etc. In English only, will be charged fifteen cents a line; in CHINESE and ENGLISH, twenty-five cents per line; and one dollar extra for the translation of the first fifty characters; and one cent per character after exceeding fifty.
Copies of THE CHINA MAIL AND FLYING DRAGON may be had at all the offices of the Pacific Mail Steamship Company, in China and Japan.
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PRICES CURRENT,
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The Mercantile Gazette and Prices Current "is the only
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REPORT
—OF THE—
COMMITTEE
—ON—
SEWING MACHINES!

California State Fair, 1866:

"TO THE PRESIDENT OF THE STATE AGRICULTURAL SOCIETY: Your Committee on Sewing Machines beg leave to report that we have examined the several Sewing Machines on exhibition, (the Grover and Baker, the Wheeler & Wilson, and the Florence,) and find that

FOR GENERAL FAMILY USE
—THE—
"FLORENCE"

—IS—
"THE BEST."

(Signed) **J. N. ANDREWS,**
THOMAS C. MCMALE,
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If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco Office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.

SAMUEL HILL,
General Agent, 111 Montgomery street, San Francisco.
17v13

TRUSSES! TRUSSES!!
Abdominal Supporters!

Shoulder Braces, Etc., Etc.

WE WOULD CALL THE ATTENTION OF DEALERS and others to our complete assortment of these goods, including Bartlett & Buman's Celebrated BALL AND SOCKET REVERSIBLE TRUSS, which is decidedly the best article ever introduced into this market. By a combination of the movement of the ball and socket, and the movable arm, any desired angle may be obtained. Call and examine for yourselves. A liberal discount to the trade.
SHEPARDSON & GATES, Agents,
22v13-3m Corner Sansome and Commercial streets.

Just Published.

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS of the Nervous System and Reproductive Organs, to be had by addressing and enclosing twenty-five cents, postage stamps, to Secretary PACIFIC MUSEUM OF ANATOMY, Mont gomery street, San Francisco. 12v13-ly

With the last number is an index to the whole volume, most useful and valuable to those who keep files of that paper. [Shasta Courier.]

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & CO., Patent Agents.
San Francisco, May 1st, 1866.

Metallurgy.

BOALT & STETEFELDT,
Metallurgists and Mining Engineers
AUSTIN, NEVADA.

Western Branch of ADELBERT & RAYMOND, No. 90
Broadway, New York. 11v11

G. W. MAYNARD, J. H. TIERMAN,
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Assaying eight percent, and upwards of Copper to the ton.
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—AND—

Practical Mining School,

Bryant Street, Between Third and Fourth,
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THE Proprietors are at all times prepared to work or test 1 Orescent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphurets, pyrites, and the so-called "rebellious ores," are having especial attention and their successful treatment. Assaying in the humid and dry way. Also, roasting by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL.

The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business.

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WE are receiving direct from MESSRS. LADD & OERTLING (London) and BECKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, MUFFLES, BLOW-PIPES, CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' Sundries, ACIDS and CHEMICALS, constantly on hand.

San Francisco March 6, 1865

11v10-1f

IMPORTANT

—TO—

WORKERS OF GOLD & SILVER ORES.

THOSE INTERESTED WILL FIND IT TO THEIR ADVANTAGE to call on W. R. WILLIAM SLOSSON, at Prof. W. P. Blake's Office, to obtain a Business Circular, just published by the U. R. T. AMALGAMATION COMPANY of New York, who have secured, under the Patents of Prof. Henry Wirtz, the sole and exclusive right to the use of sodium in amalgamation. Mr. Slosson is prepared to supply the licenses of the Company, with the material for applying this new and wonderful discovery, by which, in the words of President Bernard of Columbia College, "Two grains of gold may be gathered where but one was before." 2v13-24

DR. A. HARTMAN,

Electro-Magnetic Physician,
CURES ALL CURABLE DISEASES, BY THE CONCENTRATION of the vital forces. Nature's own method of cure. The blind made to see, the deaf to hear, the lame made to walk, and the sick healed. Come and see the afflicted at the rooms. They will speak for themselves. The poor treated free from 10 to 11 A. M. and 4 to 5 P. M. Operating rooms, 523 Kearny street, between Sacramento and California. 21v13ca

J. B. CONE, E. P. BOWMAN,
Employment and Business Agency.

J. B. CONE & CO.,

Supply Male and Female Help, sell Farms, Mines and places
Orders sent by mail or express will be promptly attended to.
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Our Patent Agency.

THE PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been organized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

New Mining Advertisements.

Ancient River Channel Blue Gravel Company.

—Location: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of November, 1866, an assessment of two dollars (\$2) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of January, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of January, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, No. 10 Government House, San Francisco. dec22

Cosula Silver Mining Company, Cosula District,

State of Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of December, 1866, an assessment of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to Chas. Baum, Secretary, at the office of this Company, 510 Battery street, opposite the Custom House, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of January, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of January, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

CHAS. BAUM, Secretary.

Office, No. 510 Battery street, opposite the Custom House, San Francisco, Cal. dec22

Melones and Stanislaus Gold, Silver and Copper Mining Company.—Location: Carson Hill or Flat

Mining District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of December, 1866, an assessment of two (\$2) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 605 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the fourth day of January, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the fourth day of February, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. DE SENAILHAC, Secretary.

Office, 605 Montgomery street, San Francisco, Cal. dec22

Mining Notices—Continued.

Arbitros Mining Company, Batopilas District,

State of Chihuahua, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment (No. 12) levied on the thirty-first day of October, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Dyer James P.	155	10	\$15 00
Dyer James P.	203	3	\$4 50
Parker George A.	76	25	\$37 50
Parker George A.	163	34	\$51 00
Stoddard R. R.	98	8	\$12 00
Stoddard R. R.	197	1	\$1 50
Stoddard R. R.	221	10	\$15 00
Shepard Theodore.	129	15	\$22 50
Siringer Wm L.	245	15	\$22 50
Wadhams Wm.	241	10	\$15 00
Total.		93	\$139 50

And in accordance with law, and an order of the Board of Trustees, made on the thirty-first day of October, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Saturday, the twenty-second day of December, 1866, at the hour of two o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. MARTINON, Secretary.

Office, 311 Montgomery street, San Francisco, Cal. dec3

Chaparral Hill Gold and Silver Mining Company.

—Location of Works: Albany Flat or Hill District,

Calaveras County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of November, 1866, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Backlund Mrs Rosa	11	100	\$150 00
Booker Jim Lane	47	100	15 00
Bowman James	44	100	15 00
Child E. F.	13	10	1 50
Condon N. C.	5	20	3 00
Connor Mrs Amelia A.	55	3	4 50
Dudley Wm L.	53	100	15 00
Debitto Ed.	43	100	15 00
Guy A. C.	7	10	1 50
Gatty Madeline.	10	5	7 50
Green U.	52	200	30 00
Shard Theodore.	59	73	10 95
Huerter Mrs E.	9	5	7 50
Hahn Clara	40	2	3 00
Johnson J. F.	48	100	15 00
Lang William	39	2	3 00
Mayer Wendell.	2	2	3 00
Morison E. S.	28	1	1 50
Mulloch John.	45	100	15 00
Pommer A.	40	100	15 00
Polhemus O. B.	49	100	15 00
Roxby Robert	46	100	15 00
Shepard Joseph	4	7	10 50
Shepard J. L.	8	10	1 50
Westerfield Louis.	33	2	3 00
Webb Franquette.	54	3	4 50
Yonahay William	1	1	1 50

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of November, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the auction rooms of Duncan & Co., No. 406 Montgomery street, San Francisco, Cal., on the thirty-first day of December, 1866, at the hour of one o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. DE SENAILHAC, Secretary.

Office, 605 Montgomery street, San Francisco. dec10

Chuk Mountain Blue Gravel Company.—Lo-

cation of Works: Nevada County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the fifth day of November, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Isaac Smith	31	250	\$375 00
Marlin White	5	100	15 00
A. D. Bowmer, Trustee	24	100	150 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of November, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on Saturday, the twenty-second day of December, 1866, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, No. 10 Government House, corner Washington and Sansone streets, San Francisco, California. dec3

Colorado Silver and Copper Mining Company.

Notice.—The Annual Meeting of the stockholders of the Colorado Silver and Copper Mining Company, will be held at the Company's office, No. 524 Clay street, San Francisco, on MONDAY, December 24th, 1866, at 3 o'clock P. M., for the election of Trustees, and the transaction of such other business as may properly come before it.

B. W. MUDGE, Secretary.

10v14w

Dios Padre Gold and Silver Mining Company,

Alamos, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of December, 1866, an assessment of three dollars (\$3) per share was levied upon the capital stock of said Company, payable December 15th, 1866, in United States gold and silver coin, to the Secretary, E. C. McComb, No. 1 Government House, corner Washington and Sansone streets.

Any stock upon which said assessment shall remain unpaid on the third day of January, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-second day of January, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. C. McCOMB, Secretary.

Office, No. 1 Government House, corner Sansone and Washington streets, San Francisco, Cal. dec3

George Washington Gold and Silver Mining

Company.—Location of Works: Silver Mountain District,

Alpine County, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of November, 1866, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Aldorffer George	152	8	\$7 50
Aldorffer George	163	1	2 50
Arnold H. W.	10	5	7 50
Boggs Geo W.	137	6	15 00
Boggs A. G.	67	11	27 50
Brewer M. T.	331	5	12 50
Bilher Henry	185	6	15 00
DeGraff Wm.	142 143 144 145	10	25 00
		146 216 10 ea	60 150 00
Grishy T. L.	59	20	25 00
Grishy R. F.	129	25	37 50
Grishy E. D.	79	10	25 00
Grishy A. D.	100	10	25 00
Haskin D. H.	34	5	12 50
Iverson Iver	154	2	6 00
Iverson Iver	162	5	12 50
Kercheval Mrs. S. A.	240	10	25 00
Linn George	203	10	25 00
Miller John	182	5	12 50
McDonell A. C.	not issued	7	17 50
Read Jas. A.	157	10	25 00
S. B. B.	12	5	12 50
Nash C. H.	64	3	7 50
Phillips W. L.	92	15	37 50
Phillips W. L.	275	10	25 00
Parson I. N.	180	6	15 00
Roberts J. R.	279	6	15 00
Tyther Richard	158	2	6 00
Vick Jos.	285	10	25 00
Vick Jos.	283	5	12 50
Whites C. J.	299	5	12 50
Whites C. H.	273	5	12 50
Williams Saml.	280	5	12 50
Williams Saml.	280	5	12 50
Williams John	300 315 319	25	62 50

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of November, 1866, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., 418 Montgomery street, San Francisco, Cal., on the twenty-fourth day of December, 1866, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. WOOD, Secretary.

Office, 338 Montgomery street, San Francisco. dec3

Hope Gravel Mining Company. Location of

Works and Property: Orass Valley, Nevada County,

California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of November, 1866, an assessment (No. 11) of one dollar per share was levied upon the capital stock of said Company, payable on the seventeenth day of November, 1866, in gold coin of the United States, to David Wilder, Secretary, at the office of the Company, No. 629 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Saturday, the twenty-ninth day of December, 1866, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the fifteenth day of January, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 629 Clay street, San Francisco, Cal. n24-5w

Josephine Copper Mining Company, Gopher

District, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of November, 1866, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. C. McComb, No. 1 Government House, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of January, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of February, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. C. McCOMB, Secretary.

Office, No. 1 Government House, corner Sansone and Washington streets. dec15

American and Foreign Patents.—Letters Patent

for Inventions can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with all obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom

we have obtained patents during the past two years.

Keystone Mining Company. Location of Works

Copperopolis, Calaveras County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of November, 1866, an assessment of ten dollars (\$10) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 440 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on Monday, the twenty-first day of January, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirteenth day of February, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. P. SUTTON, Secretary.

Office, 440 California street, San Francisco. n24

Mineral Mountain Gold and Silver Mining

Company. Location of Works: Carson's Flat or Hill Dis-

trict, Calaveras County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighth day of November, 1866, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Brunner G.	13	100	\$150 00
Connor A.	35	3	4 50
Child E. F.	13	3	4 50
Dussel G.	23	100	10 00
Grellet C. C.	4	100	10 00
Gully Madeline.	32	5	7 50
Huerter E.	38	6	9 00
Muthewson T. D.	42	125	125 00
Savage A. J.	7	100	10 00
Stratton J.	18	100	10 00
Westerfield Louis	33	12	18 00
Weiss Wm.	31	1	1 50
Webb Franquette	55	3	4 50
Wood H.	19	100	10 00

And in accordance with law

THE EXCELSIOR GRINDER AND AMALGAMATOR.

In the engraving herewith presented, A represents the Rim of the Pan; B, Muller; C, Legs; D, Cross-Frame; E, Gearing; F, Screw; G, Lever; H, Dash-Boards; I, Key; a, Dies; c, Shoes, and o, Openings.

The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

That is, the respective mullers being of the same diameter, same weight, same hardness, and running at the same velocity "The Excelsior Grinder and Amalgamator" will reduce one hundred and seventy-seven tons of ore, the Flat Bottomed Pan one hundred and eighteen tons, and the Conical Pan one hundred and thirty-two tons to the same degree of fineness in the same time.

The wear to the Shoes and Dies at their grinding surfaces in the Excelsior Grinder and Amalgamator, is perfectly uniform, thus securing evenness of reduction to the pulp, as well as steadiness of motion to the muller. Uniform wear of the grinding plates has been attained in no other than that of the Tractory form—nor can it be.

Another property of excellence in this machine is that the metal or substance to be amalgamated passes direct from the grinding surfaces into the quicksilver; thus excluding the possibility of its becoming coated with any foreign substances, after having been furnished. It is truthfully said "that the Tractory-formed Pan as a Grinder has no equal, and as an Amalgamator no superior."

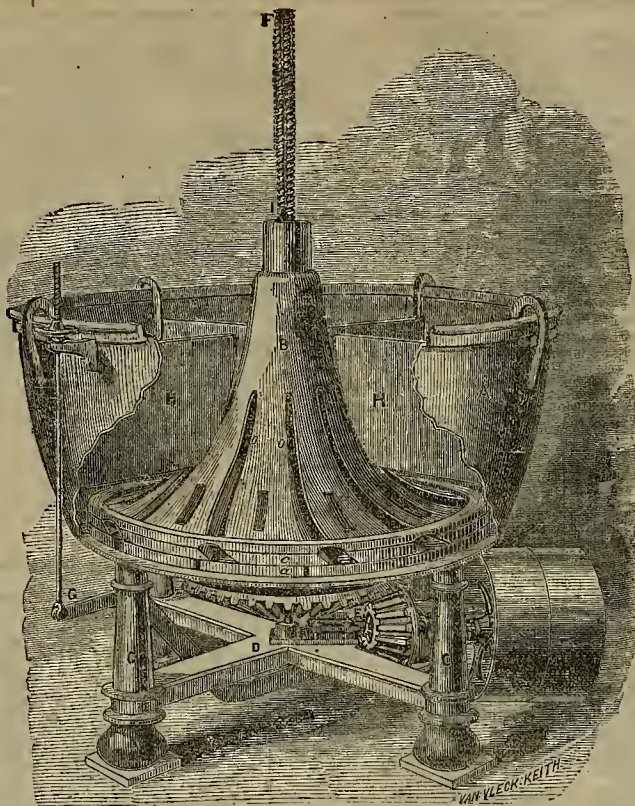
As a whole, it is far superior to any other pan in use.

MANUFACTURED AT THE

Union Iron Works and Golden State Iron Works,

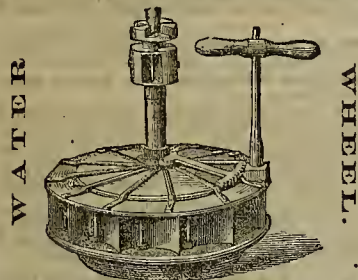
WHEELER & RANDALL, Inventors.

The undersigned having had several years of experience in practical quartz mining operations, will ever take great pleasure in furnishing parties interested in mining and machinery any desired information which they may possess.



Machinery.

LEFFEL'S American Double Turbine



THIS WHEEL, WHICH HAS HAD THE most unprecedented sale of any water-wheel ever made, and which has given unusual satisfaction whenever used, is now for sale by KNAPP & GRANT, 310 Washington street, San Francisco, where persons desiring to use water-power can be supplied. These Wheels are adapted to use from 10 to 5,000 inches of water, and from 4 feet to 500 feet fall. Let us know how much water you have either in miner's inches or cubic feet per minute, what fall you have, and what power you require. Write or send for circular to KNAPP & GRANT, San Francisco.

Leffel's Lever Jacks,

For railroads, cars, or wagons: Railroad Jacks for engines and cars; Track Jacks for leveling, with which three men, with a pair of these Jacks, can level more track in a day than twelve men working in the ordinary manner; also, Track Jacks, for relieving the axle of pressure to replace the brass. These Jacks are now in general use in the Eastern States, and give entire satisfaction. Also, Wagon and Track Jacks of the most superior make and kind. For sale by 12v12-3m KNAPP & GRANT, San Francisco.

V. CUSHING, Agent

Purchase & Shipping of Machinery
OF ALL KINDS.

Especial attention given to Quartz Mill Machinery and Findings, and Miners' Material of every description.

Being a PRACTICAL MACHINIST, and giving my personal attention to the execution of orders, I can guarantee the BEST class of work at the LOWEST PRICE in the city.

Refer, by permission, to—
Governor F. F. Low; Coffey & Risdon, San Francisco;
C. T. Meader, Stockton; Geo. R. Glayas, Chief Engineer of Cal. S. Nav. Co., San Francisco;
Jacob Underhill & Co., San Francisco;
J. W. Stowe, Russell & Erwin Manufacturing Company; Office, No. 120 Front street, San Francisco. 4v12

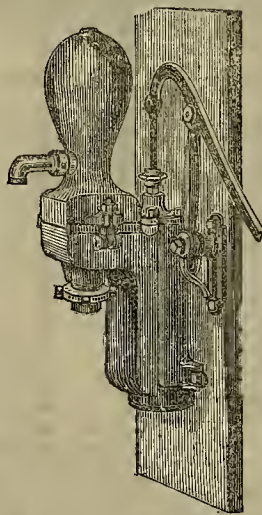
HUNTER'S IMPROVED CONCENTRATOR.

THE INVENTOR OF THE ABOVE RECENTLY IMPROVED Machine, is now prepared to take contracts for concentrating gold or silver ores on shares, receiving a certain per cent. of the sulphurets as may be agreed upon; and will guarantee twenty per cent. more sulphurets than from any rocker or concentrator built on the Pacific coast, saving at least ninety per cent. of the sulphurets contained in the ore. The sulphurets, if desired for shipping, will contain less than one per cent. of sand.

Persons who have sulphureted ores will do well to have their sulphurets saved; as the many failures in mining can often be attributed to the waste of sulphurets. For particulars, address

ANDREW HUNTER, Inventor,
San Francisco.

The Hansbrow Pumps.



ARE WARRANTED THE

BEST PUMPS OFFERED.

All Sizes, for any Purpose.

FOR SALE BY
LOCKE & MONTAGUE,

112 and 114 Battery Street,
SAN FRANCISCO.
16v13-2m

BRUCKNER'S Mechanical Roasting Furnace

AWARDED A

PREMIUM SILVER MEDAL

—BY THE—

The Mechanics' Institute.

THESE FURNACES ARE NOW MANUFACTURED AFTER an improved mode of construction, which GREATLY SIMPLIFIES THEIR OPERATION, and afford a much larger oxidizing surface to the action of heat and atmosphere.

The weight of a Furnace nine feet long by four feet in diameter does not exceed one ton.

THE IMPROVED FURNACE

May be seen in operation, for desulphurizing or roasting and chloridizing, at Central Mill, Virginia City, Nevada.

Parties wishing to erect such Furnaces, are requested to leave their orders with

T. KALLENBERG,
416 Market street, San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

Hunt's California Pump

Has all the advantages of any other Pump, is one third cheaper and more durable, will draft water as deep and force as high as any others, is not liable to get out of order, and is easily repaired by any one.

All these Pumps are fitted to work by hand if desired.

These Pumps have given good satisfaction to all who have used them during the last three years. Good judges have examined and pronounced them to be the cheapest and best Pumps in use.

Manufactured at Hunt's Windmill Factory, 28 Second Street and 110 Jessie Street.

Also, Tread Horse Powers, Pumping Frames for Irrigating, Saw Frames, Sweep Horse Powers and Frames, all in one frame, the horse to travel around the frame.



PRICES OF HUNT'S CALIFORNIA PUMPS.

No. 3—3-inch cylinder, 6-inch stroke.....	\$30 00
No. 4—4-inch cylinder, 6-inch stroke.....	35 00
No. 5—5-inch cylinder, 6-inch stroke.....	45 00
No. 6—6-inch cylinder, 8-inch stroke.....	60 00
No. 8—8-inch cylinder, 12-inch stroke.....	90 00

A liberal discount made to the Trade.
For further particulars, send for Circular.
E. O. HUNT,
21v13f 28 Second and 110 Jessie streets, San Francisco.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the
PACIFIC FOUNDRY,
San Francisco.

PATENT BUSINESS.

We have lately associated with us in the Patent and Mechanical Department of the Mining and Scientific Press, a gentleman of superior ability and attainments, who has arrived direct from the leading patent agency in New York City, and having a faithful and reliable associate in Washington City, we are now better than ever before prepared to secure the claims of our applicants, in a careful, prompt and efficient manner.
SAN FRANCISCO, June, 1866. DWEXY & CO., Patent Solicitors

Brevities.

It is said that the Salmon River mines will be a point to "rush" to in the spring.

SCARCELY any good white wine will be made this year in Europe. So much the better for Californian vine growers.

NEW YEAR'S POINT, forty-five miles south of this city, the scene of the late Coya wreck, is to have a light-house.

THREE yachts sailed on the 11th inst. from Sandy Hook for the Isle of Wight. The stake upon the race is \$90,000.

J. Q. A. WARREN is sending a fine collection of rare hot-house plants to Honolulu, where they will thrive in the open air.

A SPLENDID billiard saloon is being fitted up at the Occidental Hotel in this city. It is 128 feet in length, and will have twelve tables.

DAMAGE by fire to the amount of \$1,000 was occasioned a few days ago on Bush street, by the filling of a petroleum stove while lighted.

A TWELVE-HORSE POWER steam carriage, built for use on ordinary roads, has been employed in France to draw canal boats. It was placed on the tow-path, and worked well.

The Suez Canal will be completed in five months. Arab laborers are employed; and have at last been induced by the engineers to use wheel barrows.

They have had a severe earthquake shock at the Dalles. The buildings swayed frightfully. Mount Hood is again smoking.

Let the *Alla savant* put that and that together.

A COMPANY of wealthy residents is organized for the purpose of building a railroad from Guadalajara to Lake Chapala, in Mexico. This will open up what has been called the "Garden of the Republic."

FIVE hogsheds of Rhine wine have been preserved in a certain Bremen wine cellar ever since the year 1625. At that time each hogshed was worth about fifty dollars; but if that sum had been put out at a compound interest, it would now amount to a thousand millions of dollars.

THE Pioneer Steam Marble works in this city, expect hereafter to supply all those articles of that material which have heretofore been imported from the East. The company owning them have some \$50,000 invested in the business, and own the only quarry of black marble that has been opened in the State.

A COUPLE of WAGS in Marysville, on the night of November 13th, when every body was looking out for meteors, procured a dozen large rockets and a number of Roman candles, and proceeded quietly to "send them up." Some of the spectators still contend that the "shower" of '66 was remarkable for the brilliant display of colors.

THE labor of exploration at Herculeanum will be greater than at Pompeii, the former city having been more completely and more deeply buried. It is expected also that the quantity of valuables found will far exceed those found at Pompeii; inasmuch as the inhabitants had not time to carry them away when the fiery storm commenced.

A RIVAL to WASHOE.—Captain Hubbard writes from the Philadelphia district, sixty miles southeast of Austin, Nevada, to his father in Marysville, thus:

The Combination company (this is Lew Moore's company) is about to put up two mills of forty stamps each, and two more mills are to go up on the Transylvania, where yesterday they struck as good ore as the High Bridge's. I have two hundred feet in a ledge which assays \$3,142.50 at a depth of twenty feet. Woods & Buel purchased a claim a few days ago for \$10,000, for which I am told they have refused \$100,000. You will hear a greater pow-wow about this section in less than six months than Virginia City ever created.—*Appeal*, Dec. 12th.

It is believed by many that an ancient river bed crosses underneath the American river, and beneath the formation upon which Folsom stands, and that throughout the valley of the Sacramento the same extends; even under the city of Sacramento may lie rich deposits of gold. So says the *Folsom Telegraph*.

The farmers of Calaveras county have formed a league. We copy the first article of their Constitution, which defines the purpose of the league:

"Art. 1. The object of this League is to procure such Amendments to the existing Laws of the United States in regard to the public lands as shall be necessary to adapt them to the circumstances and wants of the people in the Mining Districts of California, and to organize our efforts for that purpose."

In Europe, passengers on railway trains are always locked into the cars; and a man who happens to be thus imprisoned in the same compartment with a desperado, or an insane man, is in a bad fix. A new means of communicating with the conductor has been adopted on the Lancashire and Yorkshire Railway. It is thus described:

"By pulling a chain, a panel between the compartments of the carriage is opened, and by the same action two rockets in a box on the roof of the carriage are discharged, causing a report which is heard for the entire length of the train. The lid of the box, which is painted red, is elevated, thus showing the compartment from which the alarm has proceeded."

That portion of the Nevada county Assessor's report which relates to mining matters, is as follows:

"There are seventy-one quartz and cement mills in the county, fifty of which are engaged in reducing gold bearing quartz rock, and the remainder earth and gravel cemented by mineral crystallization. No returns are given of the yield of the cement mills. One hundred steam engines are employed in pumping, hoisting and running mills. Of thirty-six mines the machinery is operated by water power. Only fifty-seven companies report the number of employees, the aggregate as reported being 1,797. The superintendents of thirty-two mills give the amount of work done during the year, and from their reports it is shown that 85,000 tons of rock have been crushed in those mills. In my opinion this is less than half the amount of rock crushed in the county."

CEMENT WORKING.—The Silver Mountain Bulletin says, in reference to the cement in the neighborhood of Placerville:

"We are satisfied that if, after crushing, the pulp be treated with steam or hot water, in 'mullers,' double the amount will be realized than from the cold water process now in use. The yield from this cement rarely falls below twenty dollars per ton, which makes it more valuable than quartz of double that yield, as three times the quantity can be worked in the same time, and nearly all the gold it contains saved, if a proper system of working it be pursued."

A microscope which magnifies 15,000 diameters has been constructed in London by Messrs. Howell and Leland, and described before the Royal Society. It multiplies the surface area of an object by about one thousand millions.

Legal Advertisement.

PUBLIC ADMINISTRATOR'S YEARLY ACCOUNT.

OFFICE OF THE PUBLIC ADMINISTRATOR,
San Francisco, July 1st, 1866.
To HENRY M. HALE, Esq., County Auditor, City and County of San Francisco.

Herewith I submit an account of all the Estates of Deceased Persons which have come into my hands as Public Administrator during the year ending June 30th, 1866, with the Value of each, the Money paid thereon, and the Balances due said Estates; together with a return of all Estates administered on by me, and remaining unsettled. Respectfully,

J. W. BRUMAGIM,
Public Administrator.

ESTATES SETTLED AND DISTRIBUTED.

The following named Estates, mentioned and included in my last Annual Report, have, since the rendering thereof, been settled and distributed:

John Gorman, Peter Reynolds, Thomas Jones, William R. O'Reilly, Peter Barcelona, James Morrow, John Wietz, J. H. Feldhus, M. A. Langdon, Sarah Mack, Charles Deady, Lloyd Magruder, Walter Pratt, James Willis, James McCready, Charles M. Nelson, Clara Clifford, William Humpstall, Edmund D. Hammond, Jeremiah Mead, Charles H. Raymond, Henry M. Oliver, C. J. Theis, G. T. Fouque, Mary B. Smith, John O. Neil, Michael Douchet, H. R. Rowland, John Higgins.

UNSETTLED ESTATES.

The following named Estates, mentioned and included in my last Annual Report, remain unsettled. The condition of each is as follows:

JAMES McLAUGHLIN.—Money Received, \$1,038 25; Money Disbursed, \$251 99; Balance on hand, \$1,686 27; Fees of Administrator, \$71 53.

PATRICK HUGHES.—Balance Money on hand, \$22 75; Fees of Administrator, \$1 84. Ready for Distribution.

ANDRE JOINNY.—Value of Estate, \$102 00; Money Received, \$102 00; Money Disbursed, \$91 80; Balance on hand, \$10 20; Fees of Administrator, \$4 08. Ready for Distribution.

JOHN HAYES.—Value of Estate, \$324 30; Money Received, \$324 30; Money Disbursed, \$102 06; Balance on hand, \$132 24; Fees of Administrator, \$12 96. Annual Account filed.

A. J. KING.—Partial Distribution of Estate made to heirs. Balance on hand, \$657 11. Estate ready for final Distribution.

E. A. MULLER.—Appraised Value of Estate, \$900 00; Money Received, \$340 00; Money Disbursed, \$135 00; Balance on hand, \$105 00; Fees of Administrator, \$39 60.

THOMAS THOMAS No. 2.—Balance of Money on hand, \$143 90; Fees of Administrator, \$20 00. Final Account filed, and Estate ready for Distribution to heirs.

JOHN DAVIS.—Money Received, \$175 35; Money Disbursed, \$33 00; Balance on hand, \$232 35; Fees of Administrator, \$7 00. Estate ready for Distribution.

THOMAS FLANAGAN.—Appraised Value of Estate, \$2,697 00; Money Received, \$463 60; Money Disbursed, \$571 00; Advanced to the Estate by the Administrator, \$107 50. Fees of Administrator, \$104 00. Accounts filed and proceedings pending to sell Real Estate, to pay creditors and close Estate.

THOMAS MOORE.—Value of Estate, \$43 17; Money Received, \$43 17; Money Disbursed, \$2 12; Balance on

hand, \$41 05. Fees of Administrator, \$17 72. Estate ready for Distribution to heirs.

BARTHOLOMEW W. LYNN.—Appraised Value of Estate, \$1,500 00; Money Received, \$250 00; Money Disbursed, \$207 71; Balance on hand, \$150 29; Fees of Administrator, \$60 00.

CAROLINE M. ROBB.—Appraised Value of Estate, \$1,244 00; Money Received, \$337 21; Money Disbursed, \$439 02; Advanced by Administrator, \$101 78; Fees of Administrator, 4 per cent. on final settlement. Proceedings pending to sell Real Estate to pay creditors.

JOHN LOCKAN.—Appraised Value of Estate, \$1 665 15; Money Received, \$265 12; Money Disbursed, \$388 35; Balance on hand, \$376 80; Fees of Administrator, \$36 00. Annual Account filed.

WILLIAM LOBB.—Appraised Value of Estate, \$975 20; Money Received, \$975 20; Money Disbursed, \$222 50; Balance on hand, \$552 70; Fees of Administrator, \$39 00. Annual Account filed.

WILLIAM FITZGERALD.—Appraised Value of Estate, \$50 00; Money Received, \$32 00; Money Disbursed, \$7 00; Balance on hand, \$25 00; Fees of Administrator, \$2 00. Estate ready for Distribution to heirs.

WILLIAM COWEN.—Appraised Value of Estate, \$100 00; Money Received, \$40 00; Money Disbursed, \$2 00; Balance on hand, \$58 00; Fees of Administrator, \$1 60. Estate ready for Distribution to heirs.

JAMES PEABON.—Appraised Value of the Estate, \$2,924 45; Money Received, \$1 168 08; Money Disbursed, \$1,312 70; Advanced to Estate by Administrator, \$144 71; Fees of Administrator not ascertained. Estate in litigation. Real Property claimed adversely to Estate.

ALEXANDER THOMPSON.—Appraised Value of Estate, \$50 00; Money Received, \$50 00; Money Disbursed, \$31 40; Balance on hand, \$18 60; Fees of Administrator, \$2 00. Estate ready for Distribution to heirs.

JOHN BERRY.—Value of Estate, \$80 00; Money Received, \$80 00; Money Disbursed, \$4 20; Balance on hand, \$75 80; Fees of Administrator, \$3 20. Estate ready for Distribution to heirs.

ANDRE FOULIER.—Appraised Value of the Estate, \$1,462 25; Money Received, \$1 462 25; Money Disbursed, \$392 74; Balance on hand, \$1,169 51; Fees of Administrator, \$48 49. Proceedings pending for Distribution to heirs.

NICHOLAS H. WYSE.—Appraised Value of Estate, \$1,474 00; Money Received, \$473 00; Money Disbursed, \$501 65; Advanced by Administrator, \$31 65; Fees of Administrator not ascertained. The property of the Estate consists of Real Estate, on which nothing has been realized.

MARY A. GREENWOOD.—Value of Estate, \$2,817 69; Money Received, \$347 69; Money Disbursed, \$922 18; Advanced by Administrator, \$41 19; Fees of Administrator, 4 per cent. on final settlement.

JOHN HERON.—Value of Estate, \$182 50; Money Received, \$182 50; Money Disbursed, \$46 00; Balance on hand, \$136 50; Fees of Administrator, \$7 28.

JAMES IRWIN.—Appraised Value of Estate, \$5,893 85; Money Received, \$3,945 01; Money Disbursed, \$1,849 66; Balance on hand, \$2,099 35; Fees of Administrator, 1 per cent. on final settlement.

MORGAN O'ROURKE.—Value of the Estate, \$173 10; Money Received, \$173 10; Money Disbursed, \$75 50; Balance on hand, \$97 60; Fees of Administrator, \$6 92. Estate ready for Distribution.

DIETRICH NARHWOED.—Appraised Value of Estate, \$1,721 40; Money Received, \$1,721 40; Money Disbursed, \$159 75; Balance on hand, \$1,561 65; Fees of Administrator, \$63 52. Final Account filed, and Estate ready for Distribution.

JOHN S. TIGHE.—Appraised Value of the Estate, \$2,492 00; Money Received, \$2 492 00; Money Disbursed, \$657 53; Balance on hand, \$1,834 47; Fees of Administrator, \$99 68. Final Account filed, and Estate ready for Distribution.

ESTATES ADMINISTERED UPON AT REQUEST OF WIDOWS, HEIRS, AND OTHERS HAVING THE RIGHT TO ADMINISTER.

In the following named Estates, the widows, heirs, and others having the prior right to administer, have specially requested me to administer in their place and stead:

ALEXANDER L. BARKES.—Appraised Value of Estate, \$54,373 23; Real Estate, \$10,000 00; Personal Property, \$44,373 23; Money Received, \$40,882 35; Money Disbursed, \$39,539 44; Balance on hand, \$1,332 91. Fees of Administrator committed by special agreement with widow.

PETER LECARIE.—Appraised Value of the Estate, \$1,000 00. No money or other property received. Property of Estate claimed by parties adversely to Estate.

GEORGE PECK.—Appraised Value of the Estate, \$146,465 13; Real Estate, \$34,000 00; Personal Property, \$112,465 13; Money Received, \$29,383 34; Money Disbursed, \$25,839 01; Balance on hand, \$3,523 43. Fees of Administrator committed by special agreement with widow.

ELLEN NERAC.—Appraised Value of Estate, \$3,256 16; Money Received, \$3,256 15; Money Disbursed, \$1,710 73; Fees of Administrator, \$130 24.

ROSA CALLAGHAN.—Appraised Value of Estate, Personally, \$29 65; Money Received, \$69 65; Money Disbursed, \$208 00; Balance on hand, \$401 05; Fees of Administrator, \$24 00. Heirs of Deceased all in this city.

THOMAS THOMAS No. 1.—Appraised Value of Estate, \$14,051 03; Money Received, \$3,951 65; Money Disbursed, \$3,881 22; Balance on hand, \$70 43; Fees of Administrator, 4 per cent. on final settlement. Accounts filed. Daughter of Deceased residing in this city.

THOMAS ESTES.—Appraised Value of the Estate. The Property of Estate consists of a Judgment against the Estate of F. P. Schafer, deceased, for \$9,460 28. Nothing has been realized on said Judgment, the Schafer Estate being insolvent, and no payments having been yet made to creditors.

MAURICE HARTNET.—Appraised Value of Estate, \$290 00; Personal Property, \$29 00; Real Property, \$600 00; Money Received, \$34 00; Money Disbursed, \$20 50; Balance on hand, \$13 50; Fees of Administrator, 4 per cent. on final settlement. Estate unsettled—one year not expired. Son of Deceased in this city.

SAMUEL HINCHLIFFE.—Appraised Value of Estate, \$251 00; Personal Property, all; Money Received, \$251 00; Money Disbursed, \$189 50; Balance on hand, \$61 50; Fees of Administrator, 4 per cent. on final settlement. Estate unsettled—ten months unexpired.

CHRISTIAN RASMOSIN.—Appraised Value of Estate, \$700 00; Personal Property, all; Money Received, \$710 00; Money Disbursed, \$562 50; Balance on hand, \$147 50; Fees of Administrator, 4 per cent. on final settlement. Estate unsettled—ten months unexpired. Widow residing in this city.

EDMOND O'LOUGHLIN.—Appraised Value of Estate, \$965 87; Personal Property, all; Money Received, \$503 00; Money Disbursed, \$175 10; Balance on hand, \$327 90; Fees of Administrator, 4 per cent. on final settlement. Estate unsettled—ten months unexpired. Daughter of Deceased residing in this city.

JOSEPHINE M. DUVAL.—Special Administration. Value of Estate, \$900 00; Personal Property, all. Special Administration closed and settled. No charge made for Fees of Administrator. Brother of Deceased residing in this city.

STELLA WALLIS.—Appraised Value of Estate, \$700 00; Personal Property, all; Money Received, \$700 00; Money Disbursed, \$388 25; Balance on hand, \$311 75; Fees of Administrator, 4 per cent. on final settlement. Estate unsettled—ten months unexpired. Sister of Deceased residing in this city.

BERNARD O'CONNELL.—Appraised Value of Estate, \$163 90; Personal Property, all; Money Received, \$162 90; Money Disbursed, \$152 90. No charge for Fees made. Estate closed, and Money paid to widow in this city.

GABRIEL MALLON.—Appraised Value of Estate, \$12,000 00; Personal Property, all; Money Received, \$8,495 00; Money Disbursed, \$8,291 45; Balance on hand, \$203 55; Fees of Administrator, 4 per cent. on final settlement. Accounts filed and settled. Widow of Deceased residing in this city.

JOSEPH BUTLER.—Special Administration. General Administration petitioned for. Money Received, \$310 50;

Money Disbursed, \$244 00; Balance on hand, \$96 50; Fees of Administrator, 4 per cent. on final settlement.

GEORGE F. WOODWARD.—Appraised Value of the Estate, \$95 00; Personal Property, all; Money Received, \$95 25; Money Disbursed, \$50 00; Balance on hand, \$44 99; Fees of Administrator, 4 per cent. on final settlement. Letters with Will annexed, issued. Ten months unexpired. Estate unsettled.

AMELIA MOSS.—Appraised Value of Estate, \$6,448 15; Money Received, \$2,250 61; Money Disbursed, \$1,616 18; Balance on hand, \$463 33; Fees of Administrator, 4 per cent. on final settlement. All heirs in this city.

S. P. GOODALE.—Appraised Value of Estate, \$6,145 00; Money Received, \$1,500 00; Money Disbursed, \$3,354 00; Balance on hand, \$345 17; Fees of Administrator, \$180 00. Accounts filed and Estate ready for Distribution. Heirs represented in this city by Messrs. Falkner, Dell & Co.

JAMES C. GARNER.—Appraised Value of the Estate, \$20 00; Money Received, \$20 00; Money Disbursed, \$97 00; Balance on hand, \$4 00. Fees of Administrator committed by agreement with widow in this city. Proceedings pending to close Estate.

GEORGE E. PATTERSON.—Appraised Value of the Estate, \$1,038 60; Money Received, \$1,038 60; Money Disbursed, \$38 37; Balance on hand, \$370 23; Fees of Administrator, \$11 32.

LETTERS OF ADMINISTRATION ISSUED.

Letters of Administration have been issued on the following named Estates, since the rendering of my last report:

Name of the Estate, CORNELIUS RICKTER.—Nativity of Deceased, Germany; Appraised Value of the Estate, \$227 15; Personal Property, \$277 15; Real Property, \$200 00; Money Received, \$134 15; Money Disbursed, \$150 26; Balance on hand, \$43 89; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—one year unexpired. Residence of heirs unknown.

Name of the Estate, MARY TROY.—Nativity of Deceased, Ireland; Personal Property, \$20 00; Real Property, none; Money Received, \$20 00; Money Disbursed, \$18 00; Balance on hand, \$2 00; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled. Residence of heirs unknown. Remarks: No other property received.

Name of the Estate, EDWARD M. DEVANY.—Nativity of Deceased, Ireland; Appraised Value of the Estate, \$310 00; Real Property, all; Money Received, none; Money Disbursed, \$34 00; Advanced by Administrator, \$34 00; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled. Proceedings pending to sell Real Estate. Residence of heirs unknown.

Name of the Estate, CONSTANT HUBERT.—Nativity of Deceased, France; Appraised Value of the Estate, \$1,353 90; Personal Property, all; Money Received, \$1,972 45; Money Disbursed, \$601 70; Balance on hand, \$1,370 75; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired.

Name of the Estate, WILLIAM FELL.—Nativity of Deceased, Ireland; Personal Property, \$317 10; Real Property, none; Money Received, \$317 10; Money Disbursed, \$317 10; Fees of Administrator, \$25 00. Condition of the Estate, closed. Special Administration only had. Estate passed over to G. O'Hara Taallo, Attorney for heirs.

Name of the Estate, JOHN P. QUALLEY.—Nativity of Deceased, Vermont; Appraised Value of Estate, \$577 50; Personal Property, \$577 50; Real Property, \$500 00; Money Received, \$93 50; Money Disbursed, \$137 45; Advanced by Administrator, \$44 05; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled. Proceedings pending to sell Real Estate to pay creditors. Residence of heirs unknown.

Name of the Estate, OTTO W. BECKMAN.—Nativity of Deceased, Germany; Appraised Value of the Estate, \$510 80; Personal Property, all; Money Received, \$510 80; Money Disbursed, \$179 75; Balance on hand, \$331 05; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—one year unexpired. Residence of heirs, Germany.

Name of the Estate, CHARLES DEGAN.—Nativity of Deceased, unknown; Appraised Value of Estate, \$22 00; Personal Property, \$22 00; Money Received, \$23 05; Money Disbursed, \$187 25; Balance on hand, \$37 75; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—one year unexpired. Residence of heirs unknown.

Name of the Estate, CORNELIUS DESMOND.—Nativity of Deceased, Ireland; Appraised Value of the Estate, \$454 64; Personal Property, \$454 64; Money Received, \$3 00; U. S. Legal Tenders, \$454 64; Money Disbursed, \$155 00; Balance on hand, (in U. S. Legal Tenders), \$299 60; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, Ireland.

Name of the Estate, CHARLES C. FOSTER.—Nativity of Deceased, Maine; Appraised Value of the Estate, \$2,620 00; Money Received, \$2,620 00; Money Disbursed, \$484 90; Balance on hand, \$2,071 10; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, Maine.

Name of the Estate, P. L. PEHREN.—Nativity of Deceased, Illinois; Appraised Value of Estate, \$2,055 97; Personal Property, \$2,055 97; Money Received, \$200 00; U. S. Legal Tenders, \$1,165 00; Money Disbursed, \$316 90; Balance on hand, \$848 40; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled. Partial Distribution made to widow in Illinois. Residence of heirs, Illinois.

Name of the Estate, ROBERT ADLER.—Nativity of Deceased, Germany; Appraised Value of Estate, \$609 50; Personal Property, \$609 50; Money Received, \$609 50; Money Disbursed, \$421 10; Balance on hand, \$188 40; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, Germany.

Name of the Estate, L. MULLEN.—Nativity of Deceased, unknown; Appraised Value of the Estate, \$20 75; Personal Property, \$20 75; Money Received, \$20 75; Balance on hand, \$26 75; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, unknown.

Name of the Estate, HENRY FAGAN.—Nativity of Deceased, Massachusetts; Appraised Value of the Estate, \$58 25; Personal Property, all; Money Received, \$58 25; Money Disbursed, \$15 00; Balance on hand, \$43 25; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, unknown.

Name of the Estate, EDWARD FITZ MAURICE.—Nativity of Deceased, unknown; Appraised Value of Estate, \$11 00; Personal Property, all; Money Received, \$41 00; Money Disbursed, \$2 00; Balance on hand, \$39 00; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, unknown.

Name of the Estate, ANN C. RICHARDSON.—Nativity of Deceased, England; Personal Property, \$80 00; Real Property, consisting of a house and lot on Stockton street; Money Received, \$80 00; Money Disbursed, \$13 50; Balance on hand, \$66 50; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, Special Letters only issued. Application for General Administration contested; case still pending. Residence of heirs, Australia.

Name of the Estate, JOHN McFRAN.—Nativity of Deceased, unknown; Appraised Value of the Estate, \$19 85; Personal Property, all; Money Received, \$19 85; Money Disbursed, none; Balance on hand, \$19 85; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled. Residence of heirs, unknown.

Name of the Estate, GEORGE W. CARPENTER.—Nativity of Deceased, Connecticut; Appraised Value of the Estate, \$300 00; Real Property, all; No Money Received;

Money Disbursed, \$72 00; Advanced by Administrator, \$72 00; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—one year unexpired. Proceedings pending to sell Real Estate. Residence of heirs unknown.

Name of the Estate, JOHN J. DUNN.—Nativity of Deceased, Massachusetts; Appraised Value of Estate, \$266 95; Personal Property, all; Money Received, \$205 05; Money Disbursed, \$62 50; Balance on hand, \$243 45; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, Massachusetts.

Name of the Estate, THIERIA TOLLER.—Nativity of Deceased, unknown; Appraised Value of Estate, \$37 80; Personal Property, all; Money Received, \$37 80; Money Disbursed, \$265 03; Balance on hand, \$372 77; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, California.

Name of the Estate, THOMAS MERCER.—Nativity of Deceased, Scotland; Appraised Value of the Estate, \$1,475 00; Real Property, \$1,250 00; Personal Property, \$225 00; Money Received, \$314 00; Money Disbursed, \$340 00; Balance on hand, \$110 00; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, Scotland.

Name of the Estate, NELSON P. WAILING.—Nativity of Deceased, Denmark; Appraised Value of the Estate, \$779 70; Personal Property, all; Money Received, \$779 70; Money Disbursed, \$263 10; Balance on hand, \$516 60; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, Denmark.

Name of the Estate, WILLIAM DYATT.—Nativity of Deceased, England; Appraised Value of Estate, \$475 00; Personal Property, all; Money Received, \$255 50; Money Disbursed, \$219 60; Balance on hand, \$35 00; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, unknown.

Name of the Estate, HENRY TORREY.—Nativity of Deceased, New York; Appraised Value of the Estate, \$10 75; Personal Property, all; Money Received, \$128 75; Money Disbursed, \$115 00; Balance on hand, \$13 75; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs, unknown.

Name of the Estate, M. HOITON.—Nativity of Deceased, Scotland; Appraised Value of Estate, \$1,247 65; Personal Property, all; Money Received, \$1,237 65; Money Disbursed, \$65 00; Balance on hand, \$1,192 65; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled. Residence of heirs, Scotland.

Name of the Estate, PATRICK RYAN.—Nativity of Deceased, Ireland; Appraised Value of Estate, \$300 00; Personal Property, all; Money Received, \$300 00; Money Disbursed, \$404 50; Balance on hand, \$95 50; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—one year unexpired. Residence of heirs, unknown.

Name of the Estate, FREDERICK MAHLER.—Nativity of Deceased, Germany; Appraised Value of the Estate, \$1,300 00; Real Property, all; Money Received, \$300 00; Money Disbursed, \$83 65; Advanced by Administrator, \$33 65; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled. Proceedings pending to sell Real Estate. Residence of heirs, Germany.

Name of the Estate, DANIEL SULLIVAN.—Nativity of Deceased, Ireland; Appraised Value of Estate, \$173 50; Personal Property, all; Money Received, \$173 50; Money Disbursed, none; Balance on hand, \$173 50; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled—ten months unexpired. Residence of heirs—brother in this city.

Name of the Estate, GEORGIANA MATHEWS.—Nativity of Deceased, Ireland; Appraised Value of the Estate, \$300 00; Personal Property, \$300 00; Real Property, \$300 00; Money Received, \$33 00; Money Disbursed, \$120 60; Fees of Administrator, 4 per cent. on final settlement. Condition of the Estate, unsettled. Residence of heirs—daughter in this city.

Name of the Estate, G. B. WOOD.—Nativity of Deceased, Massachusetts; Appraised Value of Estate, \$78 75; Personal Property, all; Money Received, \$75 00; Money Disbursed, \$75 00; Fees of Administrator—no charge made. Condition of the Estate, closed. Amount of Estate paid over for funeral and other expenses.

ESTATES UPON WHICH LETTERS OF ADMINISTRATION HAVE BEEN ISSUED, BUT NO PROPERTY RECEIVED.

Letters of Administration have been issued on the following Estates, but no money or other property has come into the possession of the Administrator, nor any Fees received thereon. The property of several Estates consists of claims to land not yet determined:

Robert Dwyer, T. B. McManus, John J. Coombs, C. E. Truck, Wm. P. Hamilton, Charles S. Norris, Helling Major, Horace Cole, James E. Calloun, J. W. Phipps, Julia W. Burns.

The foregoing report includes all the Estates administered upon by me during the year ending June 30th, 1866. As a number of the Estates are still unsettled, the amount of Fees cannot be stated, but the same will, on final settlement, be 4 per cent. upon the amount administered in each Estate.

All of which is respectfully submitted,
J. W. BRUMAGIM,
Public Administrator.

J. MARSHALL W. WYLLIE

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LATROBE, Cal., Sept. 19, 1866.
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This is to certify, that I have suffered over thirty-six years, been afflicted with Chronic and Intermittent Rheumatism, and the sufferings and tortures I endured in consequence cannot be told. I have, at an expense of thousands of dollars, employed many physicians, both in this country and in Europe (where I was born and resided many years), among which were several eminent professors of medicine, and I experienced no benefit from their treatment, more than at times a slight and temporary relief.
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VOLUME XIII.
Number 26.

TO OUR OLD PATRONS.

With the closing issue of the year, we take the opportunity to urge upon those of our patrons, whose subscription expires with this volume, to be prompt in their renewals. The lack of a few numbers, by failure to promptly remit, will hereafter be found a serious loss to the subscriber; every one of whom should file his paper. The value of this paper, after its first reading, for the library and for future reference, will soon be found to far exceed its first cost. Hence, as a large number of our subscribers commence with the year, we would again, at this particular time, urge upon all such the propriety of a prompt renewal of their subscriptions. We are already under many obligations to our friends for the interest they have manifested in the success of our enterprise, in their prompt remittances, in special efforts to extend the circulation of the paper, and in the substantial assistance which many have rendered in furnishing us with valuable matter for publication, whereby they are furthering not our interests alone, but those of the entire mining and mechanical community as well. We trust their efforts in this direction will still be continued, in return for which we shall labor more zealously than ever to furnish the people on the Pacific coast, with a journal which shall be second to none in the world, in the special and important field in which we have chosen to labor. While thus mindful of favors received, we cannot forbear a brief allusion to a few promises made, but never fulfilled. With many, we are well assured, the neglect is one of thoughtlessness, with others one of necessity. But we trust no one who has the means and disposition to favor us in our undertaking, will be deprived of the benefits they might derive therefrom by either procrastination or a total neglect to secure the continuance and weekly receipt of the Press. We often hear from a subscriber, that a single number has benefited him more than the entire subscription for a year could have done, expended in any other manner. Such cases, we are persuaded, are not rare. A glance at the index of the past half-yearly volume, which accompanies the present issue, is sufficient to show the inquiring reader the general scope and extent of the information furnished in our columns, and the value it possesses for future reference. It will still be our aim to introduce improvements from time to time, as occasion may require, or as our increased patronage may warrant. As an evidence of this, the paper will appear on Saturday next in a new dress, from the first font of type ever cast on the Pacific coast, thus illustrating, in our own progress, the advancement of the arts and manufacturing industry of the community which we represent.

COMMUNICATIONS RECEIVED.—“The Use of Iron Sponge for the Reduction of Metallic Sulphurets, Antimonides, etc., by Edward Pique; “The American Silk Worm,” from Prof. Brewer, of Yale College; “Light for the Mines,” by J. Mosheimer.

THE PUEBLO LANDS.—The telegraph announces that the city's title to the “Pueblo Lands” has been decided in favor of the city. So that vexed question has now been finally and forever settled.

DEEP MINE HOISTING.

As mining becomes deeper, the cost of hoisting the ore becomes a matter for the most careful consideration; and in very many cases the success or failure of a mine turns upon this very point. Our attention has been more particularly called to this fact from seeing the numbers of hoisting apparatus connected with good mines, so totally inadequate to the requirements of the mines, and so far behind the modern style and system of such work. However, more attention has been paid to the matter latterly, especially in the neighboring State of Nevada; but its great importance should place it before the miner as a necessity, next to the existence of paying ore, and fully justifies us in referring to it at this time at considerable length. We trace, as one of the chief causes of the large expense of raising ore from great depths, the wear and tear of ropes, which result from an improper proportion in the arrangement of hoisting machinery, and direction of line of hoistway. Small drums and sheaves are primarily at the bottom of the trouble, and without going into any scientific analysis, let us consider, practically, how they operate. Take a short piece of large rope, size or secure both ends by binding them with strong twine, and it will be readily seen that it takes considerable expenditure of power to bend this rope into an arc of small radius. It is therefore evident that a great and useless expenditure of force is required to simply bend the rope. Now this is not only a useless expenditure, but is more than useless—it is absolutely destructive to the rope, by munching and chafing its fibers. Here it is that the small diameter of the drum tells against the wear of the rope, by deflecting it beyond its limit of elasticity, displacing the fiber and causing an external chafing and rubbing together of the threads.

Almost every old California river miner has had occasion to untwist a rope used for driving the pumps, and which almost invariably runs over very small pulleys. All such persons must remember how the interior of the rope was cut up into short yarns, three or four inches long, and have no doubt wondered what held it together. The same operation goes on to a greater or less extent, in all ropes which are allowed to change their angle over small sheaves, or wind on small drums. The constant bending and unbending of the rope, over such small circles, finally results in the internal destruction of the rope, before it really has an opportunity to fairly wear the rough off the outside yarns.

Another thing, which receives but little attention in round ropes, is the groove of the sheave over which the rope runs. This should always be of the right shape, to permit of the rope coming in contact with it to nearly one half its circumference. The effect on rope of a large, flat groove, is to flatten and destroy the fiber on one side; this is the case, both with hemp and wire ropes. And, again, a round rope should never have but one layer coiled on the winding drum. A second layer coming on top of the rope, has a destructive effect from chafing, in its efforts to shed itself. Many engineers place a layer of old rope

around the barrel of the drum, which very soon adapts itself to the worm-like groove, formed by the coiling up of the hoisting rope, and thus prevents the injurious result which always arises from winding on a flat surface. The winding drum should not be too close to the mouth of the hoist-way, so that the rope be not too much deflected from a straight line, as it winds itself along the barrel of the drum. This refers more particularly to round ropes, as flat rope winds one part on top of the other, like a taps line, retaining its line with the hoist-way.

AN IMPORTANT CONSIDERATION.

In all cases where an overhead sheave or pulley is used, it is a very great assistance to the rope to set the sheave on rubber humpers, or other suitable arrangement of springs, as the elasticity of the spring relieves the sudden jerk given to a rope when the engine is started; which jerk, unless relieved, works rapid destruction to the rope. On inclines, in practice, many things combine to render the strain and wear upon the rope more uncertain—such as the imperfect balancing of the load, obstructions in front of car wheel by falling rocks, etc., etc.

THE PROPER SIZE FOR WINDING DRUMS.

It is a safe rule, where round rope is used, to make the winding drum 100 times the size of wire rope, or fifty times the size of hemp rope. Wire rope, being so much smaller than hemp ropes of equal strength, does not require as large a drum, for the reason that it is more pliable for the same strength. Thus an iron wire-rope 2½ inches in circumference, requires a drum 250 inches in girth; while a hemp rope of equal strength, six inches in circumference, requires a drum of 300 inches girth. Steel ropes have lately been introduced, and are very much in favor. For steel ropes the drum need be only 100 times the size of the rope. A steel wire rope, two inches in circumference, equals in strength a two and one-half inch iron, or a 6-inch hemp rope; and requires a drum 200 inches in girth. (Ropes are measured, by the manufacturers, by their circumference or girth.) There are many ropes working to good advantage on smaller drums than here set forth; but the above proportion is well borne out in practice. In many cases we have observed the winding drum of good size; but whatever advantage is derived from this, is usually quite negated by the overhead pulley being of very small dimensions. In reference to the

ECONOMY OF DIFFERENT KINDS OF ROPE.

It may be remarked that, for the last fifteen years, ropes made of iron wire have been almost universally employed in the deep mines of Great Britain for hoisting ropes, and there can be little doubt of their economy, for their durability far exceeds that of any fibrous material. Perhaps the most striking feature is their extreme lightness, when compared with hemp ropes of equal strength—being as six to ten; and in bulk or area, as one to five. They have also the advantage of not absorbing water, and not being affected by atmospheric changes—a matter of great importance for work on an outside incline, where the stretching and shrinking of a long rope creates so

much trouble in delivering the car at its proper place. Moreover, the first cost of wire rope is less than that of hemp, strength for strength. We find that steel wire rope possesses some advantages over that made from iron; equal strength weighing six-tenths of iron rope, and having about one-half the bulk, and it is also better adapted to small drums and will stand rougher usage. We have seen many steel ropes in use in the vicinity of Howland's Flat, Sierra county, doing excellent service.

In this connection it may not be out of place to extract from Ure's Supplement, page 1,091, the following scale, showing the relative values of ropes of hemp, iron and steel:

Comparative Weight, Size and Strength of Iron Wire Rope, Steel Wire Rope, Hemp Rope, and Chain.

Iron Wire Rope.		Steel Wire Rope.		Hemp Rope.		Chain.		Equivalent Strength.	
Circ. in.	Wt. per 100 ft.	Circ. in.	Wt. per 100 ft.	Circ. in.	Wt. per 100 ft.	Size Link.	Wt. per 100 ft.	Brk'g Load.	Wt. per 100 ft.
2½	10	1½	33	5	130	1 3/8	266	8	2,300
2½	53	2	65	6½	130	1 3/8	341	12	3,700
3	170	2½	91	8	236	1 3/8	533	18	6,300

COUNTERBALANCING ARRANGEMENTS.

Many plans have been suggested, where two ropes are employed, to arrange the winding of the ropes in such a manner as to counterbalance each other in all positions, and to equalize the strain on the engine while hoisting. Various contrivances of counterbalances and compensating arrangements, have been tried; but they have been generally discarded. The most successful provision seems to be the conical drum, with a helix for the rope to wind on. But the late improvements in cut-offs have, to some extent, remedied the difficulty.

FLAT ROPES.

Ropes made flat like a band, in the proportion of five times the width to one of the thickness, are very much used for vertical shafts. Flat ropes, so made, possess many advantages over round ropes for this work; and where two ropes are employed, as is usual, they counterbalance each other to a considerable extent, and equalize the strain on the engine. They have no inclination to twist, thus causing the bucket to revolve while ascending, when it is not provided with guides. The hoisting machinery for flat ropes is more compact and economical, runs smoother, and is under easier control. The barrel on which the flat wire rope winds, should be in diameter not less than 150 times the thickness of the rope. The rope is kept in position on the barrel by means of arms, the space between which should be about one half inch wider than the width of the rope. These ropes are being used to good advantage at the deep mines in the vicinity of Virginia City. The Gould & Curry company have been constantly using, for about three years, a flat wire rope made in this city.

CONCLUSION.

To the practical man, engaged in mining, this matter of economic raising of ores from great depths, should be made a matter of much study; for difficulties enough, and almost insurmountable ones, have to be overcome, without making success problematic, in cases where forethought or judgment can effect a different result. We believe that too little attention has been paid to this subject in California; hence, we have prepared the above hints thereon, which we place before our readers as hints, fully realizing that they are by no means exhaustive upon this important subject. We may return to it again at some future time.

The coal panic in England is subsiding, and discoveries of new coal veins are reported from Shropshire.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

The Properties of Sodium Amalgam.

EDITORS PRESS:—This subject has excited considerable interest of late, but is not so well understood by our metallurgists as it should be. It has been truly said, with reference to mechanical operations, that the constant improvement of all kinds of machinery demands a higher degree of intelligence in workmen than was formerly needed. The same is true of metallurgy. In proportion as science is applied to practice, and reason replaces rule of thumb, operatives must enlarge the scope of their acquirements, and acquaint themselves with the *why* as well as the *how* of what they do. A certain class of people, who usually affect to be very "practical," are fond of decrying science and scientific men, forgetting that many things which are now thoroughly practical and quite commonplace, were, a very short time ago, the unrealized dreams of some scientific man or "crazy philosopher" starving in his garret.

True, inventions and discoveries meet with more ready acceptance at present than they did in former times; but instances are not wanting, even in this city, of men in the possession of valuable discoveries suffering for want of appreciation, or, perhaps, for lack of the art of coining their brains into money, with which to purchase food and raiment. It is too often the case, unfortunately for themselves, that learned and ingenious men are not good men of business. I will not say that this hue and cry against scientific men and scientific means, is altogether without foundation; but, it is frequently the mere cloak of conscious ignorance and stupidity, which, like the cuttle fish, strives to conceal itself beneath a cloud of its own making.

I have nothing to say in favor of those conceited or vicious pretenders, who, with a mere smattering of learning, set up to work wonders, and fail for want of knowing the first principles of what they undertake; nor do I mean to say that all operators should, or can be, truly scientific. But there is no danger of knowing too much, and it is surely the duty of every man to acquire enough knowledge pertaining to his business to enable him to use intelligently the means placed before him by those who know more.

In regard to sodium amalgam, while I have no doubt its value is greatly over-estimated by those interested in its sale, it is equally undervalued by many who might be benefitted by its use, for want of a correct knowledge of its nature.

Some having a vague notion of the relation of sodium to soda, think that caustic soda will answer the same purpose. Others suppose that the presence of sodium ought to prevent lead and other base metals from entering the amalgam. Some imagine that the effect is so transient as to be valueless; and I have perceived, with astonishment, that one gentleman of intelligence, and generally correct views, has fallen into the preposterous misconception that it was intended to *decompose* the ores of silver by the agency of sodium—a proceeding of which the expense would hardly be the greatest inconvenience.

For the benefit of unlearned readers of your paper, I will, with your permission, point out some of the properties of this metal, which renders it a useful auxiliary in the collection of the precious metals.

Sodium is simply a metal, just as iron or lead is. Soda, called caustic soda, is the oxyd or rust of sodium, just as common iron rust is the oxyd of iron. Sodium has so strong a tendency to combine with oxygen, that, when thrown into water, which is composed of oxygen and hydrogen, it takes the oxygen, and becomes soda, which dissolves in the excess of water; the hydrogen escapes.

Sodium amalgamates with quicksilver just as gold and silver do, and in this state it still takes oxygen from water or air, so that if mercury containing sodium is put in a kettle, and

some clear water added, numberless small bubbles will be seen to rise through the water. These bubbles are hydrogen. When they cease to appear, the sodium has been all converted into soda, and dissolved in the excess of water; or, if there is not enough water present, it forms a crust on the top of the quicksilver. If tasted, it burns the tongue. Quicksilver charged with sodium should not be exposed to air or water long before it is used; for nine ounces of water will convert twenty-three ounces of sodium into soda.

Sodium has also a strong tendency to combine with sulphur, forming sulphide of sodium; and with chlorine, forming common salt. In all these cases it leaves the quicksilver and dissolves in water, if that is present. Quicksilver, also, combines with oxygen, sulphur, and chlorine, though with vastly less force than sodium; but the compounds so formed do not dissolve in water. Trying to or dissolve in the rest of the quicksilver, impairing its power of amalgamating with metals.

When sodium comes in contact with oxyd of quicksilver, it takes the oxygen and sets the quicksilver free; and so with the sulphide or chloride; and in this lies its power to revive foul quicksilver, and impart to it a bright, clear surface. But sodium has no power to remove lead or copper, or any base metal from quicksilver; on the contrary, it facilitates the amalgamation of all metals. The substances which it removes are not metals.

Sodium in amalgam is also capable of taking sulphur, chlorine, etc., away from silver, lead, copper, arsenic, etc.; but, as the metals thus set free, whether precious or base, pass into the amalgam, it would be very inconvenient as well as expensive to use sodium in this way.

But how is this action to be prevented? It cannot be done; and herein lies the necessity of discrimination in the use of sodium. It should not be used with raw ores abounding in sulphurets. With such ores, the surface of mercury containing sodium becomes covered with particles of sulphuret, which adhere to it while undergoing decomposition, and the amalgam becomes charged with base metal in proportion to the quantity of sodium used.

Galena decomposed thus, will give 4.5 ounces of lead for each ounce of sodium; sulphuret of antimony, about the same quantity of antimony, etc. I will here observe that the terms sulphide and sulphuret have the same meaning. The case of chloridized silver ores, containing much lead or copper, is similar. But it does not follow that sodium amalgam is useless in such cases. It is precisely in working raw sulphureted ores that the quicksilver is most liable to become "foul;" and sodium, for reasons already explained, acts like a charm in cleaning it. Indeed, I am tempted to regard this as the most important use of the substance in this connection. It is to clean ores of free gold, and to "dead roast" sulphurets, the direct application of sodium amalgam will be most beneficial.

When lead or other base metals are to be removed from quicksilver, it must be done by means of distillation and by dilute nitric acid. Sodium is useless for this purpose. As for the duration of the amalgam of sodium, much depends upon the extent to which it is mixed, small globules, with the pulp, and upon other circumstances. It may vary from half an hour to several hours; and, in cases where it is desired to keep the quicksilver constantly charged, attention must be paid to its addition from time to time.

I am aware that some look on the effect of sodium amalgam as more electrical than chemical. It is not necessary to the purpose of this article to discuss the point. Perhaps I may say the distinction, in the light of progressive knowledge, is fast losing its characteristic difference. The tendency of modern science is to generalize. The most intimate relations are beginning to be seen between things hitherto looked on as quite distinct. Even the so-called elements are destined to be reduced in number, perhaps to two, possibly even to one simple substance, in different conditions. The theory of mutual convertibilities appears, at first sight, to threaten the world of science with chaos; but it is the beginning of order.

C. H. AARON.

STEEL instruments can be effectually protected from the atmosphere and prevented from rusting, by covering them with an ointment made of one part resin to three parts fresh ard. It will do for a plow or a lancet.

It is reported that Dr. Veatch has got up a Concentrator which will run through six tons of tailings in twenty-four hours, requires no attention, and will cost only \$30.

The French government is selling off old-fashioned arms to the Siamese.

[Written for the Mining and Scientific Press.]

Mining in Silver Mountain.

EDITORS PRESS:—The many readers of the MINING AND SCIENTIFIC PRESS wish for facts in relation to the developments about being made in the vast mining field on the Pacific slope, and you, as editors and publishers of the paper, have, so far, in your endeavors to gratify their wishes, done nobly. When miners see and read an article in your paper, either scientific or descriptive, they place reliance on it; when they see it in a political party newspaper, they in general pass it by as the "idle wind which they regard not." and gotten up by some interested person to serve some miserable selfish end, for which the publisher gets well paid—perhaps a percentage on some speculating humbug, by which the community is to be gulled. You seek to establish the reputation of your paper, and to give it a widely extended circulation by dealing with stern facts. You deserve, if you do not obtain, success. The miner who buys a pick to enable him to look into Mother Earth, should also buy and read your paper, which, if he did, would in several instances save him many a hard blow.

I will try and give you some facts relative to the progress of silver mining in Alpine county as a trifling compensation for the reading of your paper, which I borrow of a friend, being too poor to buy it.

The hard times have decimated, or rather sifted our population, until the cheat or chess is mostly winnowed out. Silver mining is slow of development. In a museum in England there is one of the oldest silver coins known, found, I believe, in the Island of Cyprus. This coin has on one side of it the representation of a tortoise (the slowest of animals), as emblematical of slowness of development. As it was with silver mines when the world was young, so is it now; there are but few exceptions—the famed Comstock mine at Virginia City is one. The mines of Alpine county will only give up their riches to those entitled to them, and only as the legitimate reward of labor and toil—not merely spasmodic labor, but to labor that becomes chronic. Some of our spasmodic miners have emigrated to the frozen regions of the North—to Idaho, Montana, Lake Superior and Russian-America; some to the sunny South—to Arizona, Mexico, South America, and some even farther south. They can all well be spared; there are some few who remain, and are still to be seen traversing around billiard saloons and rum holes, too proud to work, afraid or too lazy to steal, and too poor to *secede* or get away; they hang around as sign boards for liquor sellers, waiting for something to turn up, but never turning up any thing themselves, except a glass of liquor; but the determined, resolute, *nil desperandum*, never-say-die-men, remain and work away, night and day, with courage and faith as strong as ever. They believe they have good grounds for faith and courage, and these are some of the grounds of the "faith which is in them."

THE MOUNTAIN MINE

Is being worked. It is located at the upper part of Silver Mountain, south of Main street; it is under the charge of J. A. McCuen, a model superintendent, a man who works with both hands and head. They are now in with their tunnel 950 feet, hammering, pounding, drilling and blasting night and day, aiming directly at the heart of Silver Mountain. They have already cut two or three great arteries, but will not be content until they have dissected it, and struck the very seat of life—the great silver lode itself. The ribs of the old mountain are of the hardest kind—trap, porphyry and granite. Two shifts of men, working ten hours each every twenty-four hours (Sundays excepted), can make but six or seven feet per week. Muscle, money and mind are all put to work in the right direction—the desired end must and will be obtained; the superintendent, in addition to his other duties, does the blacksmith's work. The rock is so hard that he is often obliged to sharpen one hundred drills per day. He is a man of the General Grant stripe, for he says he will fight it out on this line if it takes a dozen summers, throwing in the winters. Like General Grant, he also has his enemies, for there are some who would prefer a sort of McClellan superintendent. If McCuen is retained, he will never make peace with Silver Mountain until it surrenders up its silver.

THE WASHINGTON MINE,

Situated opposite the lower part of town, is now in with their tunnel 800 feet; they have struck a rich lode and have been running on it 240 feet; they have taken out and have ready for working 250 or 300 tons of rock, which it is confidently believed will pay \$80 per ton. Their lode varies in width from eighteen inches to four feet; at present it is only two feet in width, but said to be richer than ever. Very many specimens from this mine would create a sensation at the World's Fair in Paris. But of specimens there has been a surfeit; they will no longer pay a dividend or sell a mine. Sam. Hawkins, the former assessor, is superintendent, and he is determined that, if elected again, he will have something heavy to do with the Washington mine. Ere long they will show some specimen bricks which will open the eyes of a distinguished geologist, who has written disparagingly about the silver mines of Silver Mountain. The truth is, geologists, like other people, know a great deal more about the mineralogy of a country after the miners have run a few miles of tunnel and sunk a few hundred deep shafts. Then they can see *surface indications* which they would not see before. The Washington company have so much faith in their mine (maugre the reports of a State Geologist), that they have put up a quartz mill within a mile of the mine, and to-day, whilst I am penning this article, ten stamps are pounding ore—the steam-whistle is heard making better music to many ears than Paganini or Ole Bull ever did. Connected with the mill is a furnace for roasting ores when they are of a refractory kind, which is the case with the ore of the Morning Star mine. The works are to be under the supervision of Messrs. Kustel and Uznay. Mr. Kustel's work on Metallurgy gives evidence of his knowledge of mineralogy, and this mill, it is confidently believed, will prove it conclusively. They have contracted for 10,000 tons of ore from the Morning Star mine. This refractory, rebellious ore of the Morning Star has been worked at Freiburg, in Germany; but has not been successfully worked here or at Virginia City. It is now about three years since they have been experimenting on this Morning Star rebellious ore—it was four years that we were engaged in experimenting upon the rebellious South; but they had to yield, and it would be strange if we could not bring this rebellious ore to terms, and make it yield up its silver as the South yielded up slavery and Secession. With Union science and Yankee grit, Alpine county will come out all right yet.

THE I.X.L. MINE

Has commenced work to-day, and have let a contract for 150 feet. Some eighteen or twenty thousand dollars worth of silver bricks were taken from this mine about a year ago, when it was concluded by the San Francisco trustees to try the freezing-out process, instead of the Freiburg; but the tables were soon turned upon them, and they were frozen out themselves, and a new set of trustees, men of known and tried integrity, were elected, who are quietly and resolutely going to work the mine for the benefit of the stockholders. J. G. Haven is the superintendent, or rather managing agent, and he, with the trustees, will do his best to show the mine is well entitled to its name.

THE DEL MONTE.

Messrs. Mylett, Jardine, Burke and Smith, went resolutely to work a short time since in the Del Monte lode, in Scandinavian Cañon, near town. In ten days they sunk a shaft thirty-two feet deep, and struck a ledge in twenty feet, which is now five feet wide, which "gives the promise of things hoped for, and the evidence of things not seen." Many of the best miners think they have struck a rich thing.

THE KOH-I-NOOR,

On the side of the hill south of town, are expecting soon to strike the lode, and are working night and day. They do not expect to strike a mountain of light (*the signification of koh-i-noor*), but are confident that they will strike silver in the mountain, and that in a short time.

THERE ARE MANY OTHER MINES

In the Silver Mountain district which are now being worked with a will, but to describe them all would make this communication too long. The hard times have operated, as medical men would say, as a prophylactic—it has shown that the true remedy for hard times is to work harder. There is no truer saying than that "God helps those who help themselves." The people in Alpine county are fast finding it out. They are all, for the time, it is true, troubled with a scarcity of money; but the present indications are, that, before long (say two years), many will be troubled with a surplus. But "man is born to trouble," and the best way is to meet it with a bold face. It is to be hoped that when troubled with a surplus of the root of all evil, man will bear it with Christian fortitude and resignation. I have told you but little of what they are doing in Silver Mountain. In Raymond, Monitor, Mogul and Webster counties, the motto of the miners is, "never say die." H. E.

Mechanical.

Titanium Iron.

A valuable discovery is reported in the English papers, which consists of a cheap process for smelting titanic iron ore, which has hitherto defied, or greatly perplexed, all ironmasters and scientific men in the trade. It is a well-known fact that iron made from titaniferous ore is most valuable, on account of its hardness and tensile strength being five times greater than ordinary iron; this iron will be admirably adapted for plating on iron-clads, and also for rails, on account of its hardness and strength, and the discoverer will be prepared to test this iron against any other iron hitherto discovered for these purposes, or for making steel. If the discovery is one which can be cheaply introduced, or one by which titanium iron can be manufactured at about the cost of Bessemer steel, it will be a valuable one indeed.

A company has recently been formed in England for the manufacture of titanic steel and iron after the mode devised by Mr. Masbet, which, we believe, is nearly ready to go into operation. We perceive from the London *Mining Journal*, last received, that an extraordinary general meeting of this company has been called, to take into consideration the agreement entered into by the company with Messrs. Mushet & Clark, with a view to the modification thereof. This may possibly have some reference to the new discovery above spoken of. At all events, there is a good reason to believe that the well-known and valuable properties of titanium will soon be economically introduced into the manufacture of iron, in such a manner as to work a most important improvement in this great agent of civilization and practical mechanism.

GOOD MORTAR.—Many have supposed that the superior endurance of masonry over modern masonry is due, in a great measure, to some secret in the art of making the mortar used by the ancients. Analysis, however, shows that there is nothing remarkable in the composition of the mortar used by either the Greeks, Romans or Egyptians. The inferior quality of modern mortar is due to the dishonesty of builders and contractors, and the haste with which it is applied after being made. What is essential in good mortar is *thoroughly* burnt lime and clean sharp sand in the proportion of one of lime to two of sand; sand mixed with mud or slum won't make good mortar. Moreover, the lime should be slacked as soon as possible after burning, before air-slack begins to set in to any extent. Care should be taken that no more water is used in making mortar than is necessary to work it. The mortar should be well worked, and after being made should be kept as much as possible from the air, by a covering as nearly impervious as possible. It is said that the Romans, for their best work would not use mortar that was less than two or three years old, and which had been kept moist in pits. Before being used, it should be thoroughly re-worked. Care, in these two last particulars will add much to its hardening properties, and of course to its endurance. Some ancient mortar is as hard as the stone which it binds together.

HYDRO-PROPULSION.—In an article in the *Engineer* upon the new propeller Waterwitch, the editor says: "The first patent for hydro-propulsion was secured by Togood, in 1661, and his boat was tried on the Thames; since that year fifty-seven patents (English) have been taken out, all embodying more or less exactly the principle used by Mr. Ruthven."

ENGINE CHRONOMETERS.—Owing to the excessive shaking experienced on the foot-plates of locomotives, it has been hitherto a matter of extreme difficulty to obtain engine chronometers which will keep correct time, but this difficulty, it is reported, has been surmounted by Mr. Lewis Hasluek, who has supplied the Metropolitan Railway company with a chronometer fixed to an engine, the fifteen days' trial of which has been most satisfactory.

Welded Boiler-Joints.

During the past few years many efforts have been made to do away with the lap and rivet system of joining boiler-plates; one great objection to the system of riveting being the corrosion of the plates on the interior of the boiler, where the line of rivets join the plates together. When boilers are made of a single plate bent into a circle and having only one longitudinal riveted joint it is some improvement, as it does away with the longitudinal laps that occur in the lap and riveted boilers built up of sectional plates. This may be called the first step in the improvements in boiler working, and seems a sensible one that ought to have been adopted when the manufacture of boilers first commenced. But until the time shall come when we will have seamless boilers of steel, rolled like a tube upon the machinery that "is to be" in the future of mechanical skill, we are content to use the old style of lap and riveted boilers.

We find in this style of boiler two evils to contend with; corrosion of the plates by a chemical action, and corrosion and mechanical action combined. The first occurs in various parts of the boiler, and we find the surface of the plates irregularly pitted. But the last-named evil occurs along the line of the laps, both the longitudinal as well as the transverse joints, and occurs mostly below the water-line. Corrosion, it is true, can be accounted for by chemical principles; but when we find annular grooves running parallel or in the immediate vicinity of the riveted joints, we must look to some other cause, and must attribute it to the effects of heat upon the joints, and to the combined effort of mechanical and chemical action. We will suppose that a chemical action has commenced equally over the interior surface of the boiler; we find that the effects of heat upon the plates will be such that there will be unequal expansion where the laps occur; perhaps this may be accounted for in consequence of the plates not being in the same line of strain, and as the contraction is succeeding expansion, the deposit of scale induced by corrosion is cracked and broken off. This lays the surface open to a similar succeeding action, which, in process of time, forms an annular groove, that destroys the strength of the plate at this point. The corroding action of the water upon the plate is quite weak compared with the action that goes to form these annular grooves.

Upon locomotive boilers this evil is much greater than in the stationary boiler, and for this reason; the different supports and braces of the boiler are rigidly made, and they offer a great resistance to the expansion and contraction of the boiler, which has a greater tendency to throw off this scale and present new surfaces for corrosion than in any other kind of boiler. The system of forming boilers of a series of hoops or loops, with but one riveted joint, overcomes part of this evil. Another plan has been used, with some success, of rolling the plates with the customary thickness of body, the edges tapering with a gradual thickness, by this means insuring an equal springing of the plates instead of the concentration of force acting upon them at a single line. In this mode there is a gain of strength where the lines of riveting occur, as the loss of metal consequently weakens the plates by the series of rivet holes, but is compensated for by the additional thickness. It has been shown by actual experiment that boilers constructed upon this plan have been successful; no annular grooves being formed by corrosion consequent upon the mechanical action.

Welded longitudinal joints have been made with a fair prospect of success; but there is but little prospect of their ultimate adoption. In all experimental boilers of this kind that have been made, the weight was greater and the expense much more than any other kind of boiler. Instead of adopting *heavier* boilers, we are continually looking for a boiler that shall be lighter as well as cheaper, and combining the same amount of strength.

The great want seems to be a boiler that shall be light, constructed of Bessemer or some kind of steel that shall be perfectly homogeneous—made seamless, perfectly cylindrical, and of length or diameter to order.

When we call to mind the improvements made in steam hammers, and the huge forgings that are formed by their aid; the rapid improvements made in the manufacture of wrought iron tubes, can we not look to the future as producing boilers made in this manner and upon these principles? It may be of no greater difficulty in the future than the making of iron tubing has been in the past. Where there is a demand, or where a demand can be created, *there* genius will find a means to supply all that is needed or called for.—*American Artisan*, Nov. 21.

A new English "safe-protector" is an arrangement by which any violence to the safe, even a blow upon the top, will cut off the supply of gas from a peculiar lamp in the street in front of the building. This would not once draw the attention of the watchman.

Scientific Miscellany.

Wilde's New Magneto-Electric Machine.

The October number of the London Quarterly *Journal of Science*, contains a further description, with illustrations, of Mr. Wilde's new magneto-electric machine. Like most practical applications of science, the important results which Mr. Wilde has obtained, depend more upon an ingenious combination of several well-known facts, united with considerable scientific and engineering skill, than upon any new and striking discovery in the science of electricity. The principle of the machine was quite fully and distinctly set forth in our issue of December 15th.

The value of the discovery is beyond question. The consideration of its economical applicability at present, seems to be confined to the production of light. The extraordinary calorific and illuminating powers of the apparatus, are certainly most astonishing. The great advantage derivable therefrom, over the old system of magneto-electric machines, consists in its capability of amplification to seemingly any required power, by the mere enlargement of the size of the different parts, and the continuation of the electric current generated round a still greater number of electro-magnets. The only apparent limit to this multiplication of power, is the excessive heat evolved. It could be increased until the heat would destroy every material of which the apparatus could be constructed, burn up the wood work, melt the iron and brass, if, indeed, it did not previously result in the more sudden catastrophe of a mighty explosion, spreading death as well as desolation around. A machine might be constructed and safely worked, which would light up such cities as San Francisco, and make our night as bright as day.

A writer in the *Journal of Science*, while reflecting upon the extraordinary results obtained in the evolution of such an enormous electrical force at the expenditure of such apparently small mechanical power, cautiously remarks as follows: "But, without for a moment denying the truth of this doctrine, [the modern doctrine of the conservation of force] it must be admitted that there are certain phenomena connected with this, which are in apparent contradiction to the law of conservation."

The first practical application of the invention, and one which possesses a considerable degree of interest, has been made by a photographer. For such purposes it is found more convenient, and even more effective, than the sun itself. By the aid of one of Mr. Wilde's machines more than two hundred negatives can be exposed in a day to secure gelatine reliefs. Its constancy and perfect control renders it far more valuable than an uncertain sunlight.

A large machine is now in process of construction for a first class lighthouse, that will weigh, when completed, about three tons, and which without reflectors will produce as much light as 4,000 wax candles, at an expense not exceeding, if it even equals that of oil or gas, for a light of ordinary intensity, equal to, say 1,000 wax candles. The amount of coal, per hour, to keep up the mechanical action of the revolving armatures, necessary to cause the machine to blaze forth with an intensity of light, before which even the rays of the sun himself appear pale and feeble, will be less than twelve pounds per hour! To the above must be added the expense of carbon rods for the lamps, which will be about ten inches per hour, worth perhaps two or three cents—and the somewhat increased expense of interest on the original cost and a little extra care for tending the motive power, etc.; but no more necessary cost.

Time has not yet sufficed to determine but few of the uses to which so convenient and useful a light may be applied; or to the other economical purposes which it may yet be found to subserve in some one of its convertible forms of light, heat or motion. The purely scientific interest of the discovery has as yet

been scarcely considered. Philosophers and experimentalists of all classes, will doubtless seize upon the discovery and amplify it, by repeating and extending their researches into dia-magnetism and the magnetic condition of all matter. We shall watch with much interest for future developments, and shall place them before our readers as fast as they transpire.

THE MAGNESIUM LIGHT—A NEW MODE OF OBTAINING IT.—A new magnesium lamp has been devised in England, by which that metal is burned in the shape of a fine powder, instead of the ordinary ribbon. The metallic powder is mixed with fine sand as a diluent, instead of the metallic alloy as heretofore employed in the form of a strip or ribbon. The powder is placed in a reservoir of suitable size, with a short tube at the bottom through which it flows to a small gas jet issuing from the same orifice, and by which it is kept in a constant blaze. The flow is regulated by a valve, the same as in the use of gas. At the first *soiree* at which these lamps were used, the ladies complained that a ghastly effect was produced upon the countenance, by the effect of the burning magnesium. At the next *soiree*, the defect was ingeniously obviated, and a most pleasurable change effected, by the addition of a little nitrate of strontia to the magnesium powder; the result of which was the communication of a warm roseate hue to the light, which produced a most pleasing effect upon the complexions of the persons present. The ladies, especially, were delighted with the ingenious contrivance, and expressed the utmost satisfaction at this new evidence of the value of science in devising ways and means for beautifying the human complexion.

TRANSMISSION OF SOUND THROUGH WATER.—It is a singular fact that musical sounds, however loudly produced, rapidly become extinct in their transmission through water. For instance an iron bar, suspended perpendicularly in the air, and struck anywhere along its length produces a musical sound which is heard to a great distance—much further than when it is suspended longitudinally and struck against one of its ends. The exact reverse of this is true when suspended in the water. These facts have an important bearing in the transmission of fog signals, when musical notes cannot be heard at so great a distance as those which are not musical. Extensive experiments in this direction are being made in England, with regard to the character of sound which will pass the most readily through water or an atmosphere loaded with fog.

INDIUM IN ZINC OVENS.—Dr. Rudolph Wagner has ascertained that the rare metal indium is often to be met with in the fumes of any furnace where zinc blende has been roasted. The fact is worth bearing in mind, and it would be well for any parties who may be roasting ores containing any considerable quantity of zinc, to have their fumes or the dust from the same carefully examined for this mineral, by some competent chemist.

PURE BENZOL.—To prepare perfectly pure benzol, Schorlemmer recommends the treatment of the crude mixture of hydro-carbons with bromine, and subsequently with potash before rectification. In this way a product is obtained which gives a nearly colorless nitro-benzol, and dissolves in concentrated sulphuric acid without much coloration.

GLACIER ICE.—M. A. Bertin has recently examined the constitution of glacier ice by polarized light. He has found that the superficial part of the higher glaciers is composed of agglomerated snow; but lower down, where the water has sunk into the fissures and become frozen, crystallization and true ice are found.

THE COLOR OF VARIOUS LIGHTS.—The diffuse light of day is strongly reddish, just as gas or lamp light is yellow. The only perfectly white light is the electric light from charcoal points. The light from burning magnesium, as well as that derived from the combustion of phosphorus in oxygen, is violet.

WEEKLY STOCK CIRCULAR

Of Associated Brokers of the S. F. Stock and Exchange Board

SAN FRANCISCO, SATURDAY MORNING,
December 29, 1886.

MONEY MARKET.

The money market presents no new feature of special mention. The demand for legitimate business purposes is very fair, and there is no lack of available funds in the banks and other places of deposit; in fact, the accumulations are larger at present than for some time past. A considerable amount of first class paper is now negotiated at 1 per cent. per month; however, most discounts are made at 1½ per cent., with occasional transactions at 1½.

Bullion is not in large supply, and the amount at command for shipment is comparatively light. Gold Bars are scarce and obtain \$80@87½. Silver is selling at ½ 4½ ct. premium for fair grades.

Sight Drafts payable in coin are selling at 2½ 4½ ct., and Currency Bills on the East are offered at 25 4½ ct. premium on gold. Telegraphic Transfers are made at 2½ 4½ ct. premium. Sterling Exchange sells at 48½@49½d, and Commercial Exchange at 49@49½d.

The duties paid at the Custom House in this city, from January 1st to December 27th inclusive, amounted to \$7,144,465.98. The receipts of Treasury from the interior during the current month aggregated about \$3,500,000.

The rapid decline of Gold during the past two weeks seems to have retarded any speculative movement in Legal Tenders in this market, most holders being confident of a still further rise. Our latest advices from New York quote Gold at 132. Legal Tenders are selling here at 75½. A small amount of June 7-30s obtained 76½.

CITY STOCKS.

City Stocks are not in much favor at present, and during the past week transactions in these shares have been lighter than for a long time past. California Steam Navigation Company sold at 64 4½ ct., and Sacramento City Bonds at 20 4½ ct. Insurance Company shares are freely offered, but obtain no purchasers at quotations. The recent withdrawal of some of these institutions from the rules and regulations of the Board of Underwriters, and their determination to materially lessen the rates of insurance, occasions a feeling of uneasiness on the part of holders.

In order to obtain some idea of the amount of money disbursed in the form of dividends in this city by various incorporations during the present month, we have made the following compilation:

The Bank of California, 1 3/4 ct. on \$5,000,000—	\$250,000
California Navigation Co., 2 1/4 " 2,500,000—	60,000
Spring Valley Water Co., 1/2 " 6,000,000—	30,000
San Francisco Gas Co., 1/2 " 6,000,000—	30,000
Omnibus Railroad Co., 1/2 " 1,000,000—	5,000

Total, \$345,000
Add Sacramento Gas Co., 1/2 ct. on \$500,000— 2,500
And Silver Mining Co. dividends, say, 340,000

We obtain a total of.....\$507,500

which we may almost consider as a local disbursement of net earnings during the current month. We are informed that the Central Railroad Company recently paid a dividend, but the amount disbursed we have been unable to ascertain. North Beach and Mission Railroad Company paid no dividends in November and December; previously they declared ½ 4½ ct. per month on the capital stock.

In reference to the receipts of the several City Railroad companies, from December 1, 1885, to November 30, 1886, a period of one year, we present the following figures:

Omnibus Railroad Company.....	\$238,105
North Beach and Mission Railroad Company.....	195,310
Central Railroad Company.....	127,018
Front Street Railroad.....	39,284
Front Street, M. & O. Railroad Co., from May 1 to November 30, 1886.....	27,619

Total City Railroads.....\$627,316
S. F. & San Jose Railroad..... 606,149

Making a total of.....\$1,233,465

MINING SHARE MARKET.

The stock market has been characterized by considerable activity this week, if we take into account that this is the holiday season of the year; a few leading stocks, however, fluctuated more than usual, and closed at a decline from quotations in our last issue. Other shares have commanded uniform prices, showing a very slight change from sales during the previous week. Shares of fourteen different mining companies constituted this class of transactions during the present week.

HALE & NORCROSS—has not been inquired for during the past week. We quote it at about \$2,500 bid. This company is opening a station at the base of the 780 foot level, and have suspended work in extracting ore for a few days for this purpose, and also to repair the car tracks in various portions of the mine. They report a large amount of ore on hand.

SAVAGE—obtained a considerable degree of activity at the close. The stock sold early in the week at \$1,952.50, improved to \$2,110, seller 30, then receded to \$2,070, and at the close \$2,125 is asked. During the week ending Dec. 22d, this company mined 1,245 tons of ore; previous week, 1,893 tons. Of the 1,245 tons of ore extracted during the week under review, 119 came from the Curtis shaft, valued at \$46 per ton, and 146 tons from the sixth and seventh stations, worth \$72 per ton—both second-class grades of ore, the remainder (980 tons) being third-class, and valued at \$30 per ton. The accumulated ore at the mine amounts to 2,135 tons. The mine continues to look well, and we learn of no special changes at this time. The bad condition of the roads and the inclemency of the weather had prevented the teams from hauling ore to the mills for several days. The receipts of bullion during the current month, it is thought, will be fully as large as the November returns.

YELLOW JACKET—was in the market to a large extent, opening at \$1,300 buyer 10, improving to \$1,305@1,310, dropping to \$1,250 on Thursday, on which day 80 feet were sold, and closed yesterday at \$1,200. From December 1st to the 17th, this company extracted 5,163 tons of ore, of which 10½ tons were first class. The yield of Bullion during the same period is stated at \$62,148.36. It is estimated that the receipts of the present month will aggregate \$275,000. In regard to the recent developments we have been informed that in the south mine, lower level (500 feet), two extensive strata of fine ore have been found.

CROWN POINT—has been well maintained at an advance from sales of the previous week, selling at \$1,250@1,262.50, then at \$1,250, and at the close \$1,190 was bid. During the week ending the 21st inst., 985 tons of ore were taken from the mine; previous week, 891. The sinking of the shaft from the 400 to the 500 foot level is expected to be accomplished in 35 days from the first of January next. The receipts of bullion from the 1st to the 19th instant amounted to \$75,000.

GOULD & CURRY—sold at \$700 early in the week, then at \$690@700, receded to \$670, and at the close \$675 was asked. The annual meeting, for want of a quorum on the 27th, was again adjourned to January 15th, 1887.

CHOLLAR-POTOSI—has been active and 318 shares changed hands, opening at \$215, advancing to \$230, gradually receding to \$218@216, and closing at \$208. During the week ending December 22d, 820½ tons of ore were forwarded to custom mills. The winze from the first station, new shaft, is now down 25 feet. The quartz has given out, and they are now sinking in clay and porphyry. No change worth mentioning in other portions of the mine.

EMPIRE MILL—rose from \$192.50 to \$205, and at the close sold at \$210....IMPERIAL opened at \$138@140, receded to \$127.50, and closed yesterday at \$130. This company realized \$15,000 in bullion from the second clean up in the present month....BELCHER advanced from \$131 to \$138, then sold at \$132, and closed at \$132.

OPHIR—was quite actively dealt in, advancing from \$163 to \$172.50, dropping to \$145@140, and closing at \$134. On the 24th inst. the trustees of this company levied an assessment of \$5 per share, or \$60 per foot.

CONFIDENCE—gained a good degree of activity toward the close of the week, selling on Monday at \$81, declining to \$75.50, and then to \$70, and at the close sold at \$67....OVERMAN was comparatively quiet, selling within a range of \$16.25@18, closing at \$17 seller 30.

ALPHA—sold early in the week at \$100@110, then at \$150. At the close \$125 was bid....BULLION realized \$7, then \$24, assessment of \$10 delinquent....SIERRA NEVADA rose from \$2.50 to \$5, receded to \$2.75, and closed at \$2.75. The annual meeting of this company takes place on the 14th of January, 1887.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$617,612.75.

Judicious Resolutions.

Several of our most substantial and judiciously managed mining corporations have passed resolutions, since the approval of the new assessment law, requiring all notice of assessments and sales to be published in the MINING AND SCIENTIFIC PRESS, the only thorough (daily or weekly) mining journal on this coast. Our efforts to concentrate all mining advertisements in one paper, for the economical convenience of shareholders and assessment payers, are meeting with decided success. Those who believe in supporting the mining cause, should bear our paper in mind, and bring up this subject at the next trustee or shareholders' meeting.

San Francisco, April 7th, 1866.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Saturday, December 22.

12 shs Ophir at 164 per foot, s 5.
12 shs Ophir at 165 per foot, s 5.
12 shs Ophir at 172½ per foot, b 30.
276 shs Ophir at 162½@165 per foot.
168 shs Ophir at 163@167 per foot.
10 shs Sierra Nevada at 2½ per share.
12 shs Alpha, G. H., at 100@110 per foot.
4 shs Gould & Curry at 700 per foot.
25 shs Chollar-Potosi at 220 per foot b 30.
5 shs Chollar-Potosi at 215 per foot.
9 shs Chollar-Potosi at 211 per foot.
6 shs Chollar-Potosi at 214 per foot.
6 shs Chollar-Potosi at 213½ per foot, b 5.
10 shs Imperial at 133 per share.
10 shs Imperial at 140 per share.
8 shs Yellow Jacket at 1300 per foot, b 10.
4 shs Yellow Jacket at 1310 per foot b 30.
2 shs Yellow Jacket at 1295 per foot b 10.
11 shs Yellow Jacket at 1290 per foot.
11 shs Yellow Jacket at 1285 per foot.
1 sh Savage at 1970 per foot, b 5.
1 sh Savage at 1955 per foot, s 5.
4 shs Savage at 192½ per foot.
10 shs Overman at 16½ per share.
5 shs Overman at 17 per share b 30.
7 shs Belcher at 131 per foot.
2 shs Bullion at 17 per share.
1 sh Empire M & N Co at 192½ per sh.
\$700 U S 7-30, June issue, at 76½ per ct.
4 shs Cal Steam Nav Co at 64 per cent.
Amount of sales.....\$ 80,461 00

Monday, December 24.

60 shs Ophir at 167½ per foot s 30.
336 shs Ophir at 166@170 per foot.
12 shs Ophir at 170 per foot b 5.
12 shs Ophir at 168 per foot b 10.
12 shs Gould & Curry at 690 per foot.
8 shs Gould & Curry at 700 per foot.
1 sh Savage at 1960 per foot, s 5.
8 shs Confidence at 81 per share.
4 shs Confidence at 80 per share.
20 shs Chollar-Potosi at 215 per foot.
40 shs Chollar-Potosi at 230 per foot.
38 shs Chollar-Potosi at 225 per foot.
10 shs Imperial at 140 per share.
6 shs Imperial at 138 per share.
1 sh Yellow Jacket at 1310 per foot 30 d.
3 shs Yellow Jacket at 1290 per foot.
12 shs Yellow Jacket at 1300 per foot.
13 shs Yellow Jacket at 1295 per foot.
6 shs Yellow Jacket at 1300 per foot b 5.
4 shs Yellow Jacket at 1315 per foot, b 10.
4 shs Yellow Jacket at 1310 per foot b 10.
7 shs Yellow Jacket at 1330 per foot, b 30.
6 shs Yellow Jacket at 1331 per foot, b 30.
6 shs Yellow Jacket at 1299 per foot, s 30.
2 shs Empire M & N Co. at 197½ per share.
2 shs Empire M & N Co. at 200 per sh.
3 shs Empire M & N Co. at 200 per sh, b 3.
24 shs Crown Point at 1290 per foot.
2 shs Belcher at 131 per foot.
2 shs Belcher at 132½ per foot.
1 sh Belcher at 130 per foot s 30.

AFTERNOON SESSION.

156 shs Ophir at 165 per foot, s 30.
96 shs Ophir at 165 per foot.
24 shs Ophir at 172½ per foot.
24 shs Ophir at 165 per foot.
10 shs Sierra Nevada at 5 per share.
2 shs Savage at 1975 per foot.
1 sh Savage at 1970 per foot.
4 shs Alpha, G. H., at 160 per foot.
11 shs Yellow Jacket at 1330@1305 per foot.
2 shs Yellow Jacket at 1310 per foot b 10.
1 sh Chollar-Potosi at 221 per foot.
14 shs Crown Point at 1290 per foot.
4 shs Belcher at 130 per foot.
1 sh Belcher at 130 per foot s 10.
Amount of sales.....\$165,950 00

Wednesday December 26.

12 shs Ophir at 150 per foot, s 30.
12 shs Ophir at 165 per foot, b 10.
12 shs Ophir at 155 per foot, b 10.
24 shs Ophir at 150 per foot, b 10.
60 shs Ophir at 150 per foot, b 30.
456 shs Ophir at 160@145 per foot.
5 shs Overman at 16 per share, s 10.
10 shs Overman at 16 per share, s 6.
20 shs Overman at 16 per share.
10 shs Overman at 16½ per foot.
2 shs Chollar-Potosi at 220 per foot s 10.
1 sh Chollar-Potosi at 219 per foot s 10.
6 shs Chollar-Potosi at 220 per foot s 30.
10 shs Chollar-Potosi at 225 per foot.
7 shs Chollar-Potosi at 220 per foot.
8 shs Crown Point at 1290 per foot.
4 shs Crown Point at 1280 per foot b 30.
5 shs Confidence at 77 per share.
1 shs Confidence at 80 per share.
3 shs Belcher at 135 per foot, b 30.
10 shs Belcher at 130 per foot.
5 shs Belcher at 138 per foot.
1 sh Savage at 2000 per foot, s 3.
1 sh Savage at 2000 per foot s 30.
5 shs Confidence at 137½ per share.
7 shs Imperial at 135 per share.
4 shs Yellow Jacket at 1300 per foot.
5 shs Yellow Jacket at 1290 per foot.
2 shs Yellow Jacket at 1300 per foot.
8 shs Yellow Jacket at 1310 per foot b 10.
2 shs Empire M & N Co. at 200 per sh.

AFTERNOON SESSION.

20 shs Overman at 16 per share.
5 shs Overman at 17 per share.
20 shs Overman at 16½ per share.
120 shs Ophir at 150 per foot, s 30.
41 shs Ophir at 150 per foot.
44 shs Ophir at 151 per foot.
13 shs Confidence at 76 per share.
5 shs Confidence at 75 per share.
13 shs Confidence at 77½ per share.
5 shs Confidence at 134 per share.
2 shs Confidence at 77 per share.
5 shs Confidence at 75½ per share.
1 sh Chollar-Potosi at 220 per foot b 10.
1 sh Chollar-Potosi at 218 per foot.
5 shs Chollar-Potosi at 215 per foot, s 30.
2 shs Chollar-Potosi at 218 per foot.
5 shs Chollar-Potosi at 217½ per ft b 3.

4 shs Savage at 2075 per foot.
4 shs Savage at 2100 per foot.
1 sh Savage at 2100 per foot, s 30.
1 sh Savage at 2150 per foot, s 30.
1 sh Savage at 2110 per foot, s 20.
1 sh Savage at 2105 per foot.
10 shs Sierra Nevada at 2½ per share.
10 shs Sierra Nevada at 2½ per share.
1 shs Empire M & N Co. at 205 per share.
3 shs Yellow Jacket at 1300 per foot.
2 shs Yellow Jacket at 1310 per foot.
1 sh Yellow Jacket at 1315 per foot b 10.
1 sh Belcher at 135 per share.
1 sh Belcher at 135 per foot.
\$3,000 Legal Tender Notes at 74½c.
Amount of sales.....\$ 98,335 50

Thursday, December 27.

2 shs Chollar-Potosi at 217½ per sh, s 3.
5 shs Chollar-Potosi at 216½ per foot c.
3 shs Chollar-Potosi at 216 per foot.
10 shs Chollar-Potosi at 220 per foot, b 30.
18 shs Chollar-Potosi at 215 per foot.
4 shs Yellow Jacket at 1310 per foot.
1 sh Yellow Jacket at 1305 per foot.
7 shs Yellow Jacket at 1300 per foot.
1 sh Yellow Jacket at 1305 pr ft b 5.
1 sh Yellow Jacket at 1297½ per foot.
5 shs Yellow Jacket at 1295 per foot.
1 sh Yellow Jacket at 1300 per foot b 5.
2 shs Yellow Jacket at 1290 per foot.
2 shs Yellow Jacket at 1295 per foot.
4 shs Yellow Jacket at 1290 per foot.
2 shs Yellow Jacket at 1290 per foot, b 3.
2 shs Yellow Jacket at 1280 per foot b 5.
1 sh Yellow Jacket at 1265 per foot.
1 sh Yellow Jacket at 1262½ per foot.
2 shs Yellow Jacket at 1280 per foot s 5.
4 shs Gould & Curry at 690 per foot, s 30 d.
8 shs Gould & Curry at 670 per foot.
36 shs Ophir at 151 per foot.
12 shs Ophir at 150 per foot.
12 shs Ophir at 147½ per foot s 30.
60 shs Ophir at 145 per foot.
96 shs Ophir at 146 per foot, s 30.
72 shs Ophir at 147½ per foot.
60 shs Ophir at 145 per foot.
4 shs Savage at 2090 per foot.
1 sh Savage at 2100 per foot.
1 sh Savage at 2100 per foot s 3.
1 sh Savage at 2090 per foot, s 30.
3 shs Belcher at 131 per foot.
3 shs Belcher at 132 per foot.
7 shs Empire M & N Co. at 205 per sh.
5 shs Imperial at 135 per share.
8 shs Imperial at 134 per share.
10 shs Overman at 17½ per share.
35 shs Overman at 18 per share.
25 shs Confidence at 75 per share, s 3.
20 shs Confidence at 76 per share.
6 shs Confidence at 77 per share, b 3.
15 shs Confidence at 76 per share, s 30.
5 shs Confidence at 75 per share s 30.
45 shs Confidence at 76 per share.
5 shs Confidence at 74 per share.
6 shs Bullion at 17 per share.
109 shs Sierra Nevada at 2½ per share.

AFTERNOON SESSION.

12 shs Ophir at 140 per foot.
45 shs Sierra Nevada at 2½ per share.
10 shs Imperial at 130 per share.
5 shs Imperial at 127½ per share.
2 shs Savage at 2070 per foot.
3 shs Empire M & N Co. at 205 per share.
25 shs Bullion at 18 per share.
50 shs Bullion at 20 per share, b 30.
6 shs Bullion at 18 per share.
7 shs Yellow Jacket at 1290 per foot s 30.
8 shs Yellow Jacket at 1290@1245, b 15.
2 shs Yellow Jacket at 1216 per foot, b 15.
4 shs Yellow Jacket at 1250@1260 pr ft b 10.
20 shs Yellow Jacket at 1250@1225 per foot.
3 shs Yellow Jacket at 1250 per foot.
2 shs Belcher at 140 per foot, b 30.
10 shs Chollar-Potosi at 215@216 per foot.
50 shs Confidence at 75 per share, b 30.
10 shs Confidence at 70 per share, s 30.
55 shs Confidence at 71@70 per share.
Amount of sales.....\$165,794 75

Friday, December 28.

135 shs Sierra Nevada at 2½ per share.
132 shs Ophir at 140 per foot, b 30.
276 shs Ophir at 135@130 per foot.
15 shs Overman at 16½ per share s 30.
5 shs Overman at 16½ per share b 10.
22 shs Overman at 16 per share.
10 shs Chollar-Potosi at 208@206 pr ft s 30.
5 shs Chollar-Potosi at 215 per ft b 30.
34 shs Chollar-Potosi at 216@210 per foot.
9 shs Chollar-Potosi at 209@208 per ft.
5 shs Empire M & N Co. at 210 per sh.
9 shs Imperial at 135 per share, b 30.
1 sh Imperial at 132½ per share.
20 shs Chollar-Potosi at 130 per foot, s 30.
1 sh Yellow Jacket at 1230 per foot b 30.
2 sh Yellow Jacket at 1245 per foot b 30.
6 shs Yellow Jacket at 1230@1225 per ft.
8 shs Yellow Jacket at 1225@1231 per ft.
2 shs Yellow Jacket at 1230 per foot s 30.
1 sh Yellow Jacket at 1230 per foot.
34 shs Bullion at 192½ per share.
25 shs Bullion at 20 per share.
30 shs Confidence at 71@70 per share.
5 shs Confidence at 70 per share, s 10.
9 shs Belcher at 131@130 per foot.
5 shs Belcher at 136 per foot, b 30.

AFTERNOON SESSION.

90 shs Overman at 17½ per share.
10 shs Overman at 17 per share, s 10.
30 shs Overman at 17 per share, s 30.
120 shs Ophir at 134@130 per foot s 10.
15 shs Imperial at 130 per share, s 20.
6 shs Imperial at 130 per share.
5 shs Chollar-Potosi at 206 per foot s 30.
12 shs Chollar-Potosi at 207@208 pr foot.
30 shs Bullion at 20 per share.
30 shs Bullion at 24 per share.
3 shs Belcher at 134@132 per foot.
10 shs Confidence at 67@63 per share.
12 shs Yellow Jacket at 1230@1240 pr ft b 30.
1 sh Yellow Jacket at 1215 per ft, s 10.
1 sh Yellow Jacket at 1200 per ft s 15.
20 shs Yellow Jacket at 1220@1200 per ft.
1 sh Yellow Jacket at 1195 per foot s 30.
Amount of sales.....\$107,071 00

INNOVANT MINING AGENTS.—The American Journal of Mining publishes a letter from Richard Ogden, of San Francisco, in the course of which he says: "There are good chances here yet to invest in good mines that we have not means to develop, but you must use ordinary business precaution and judgment in investing, and not go it blind. Don't send out, as agents, boys and men who don't know granite from slate. I know of a 'practical miner' here who spent a quarter of a million on a Reese River mine, who did not know what the word 'auriferous' meant, and when I showed him a piece of brick hat he thought it very fair rock."

THE SUTRO TUNNEL.—We learn that there is now evident a disposition to take stock in the above named enterprise, on the part of the mining companies whose claims are situated on the Constock Lode. This is as it should be. There could be no better proof that these companies are satisfied not only that the work will be of incalculable benefit to their claims, but that the stock will be desirable as a speculation. Those who have read the pamphlet which Mr. Sutro has published, can conceive of the immense prospective revenue of the company.

AGGREGATE BULLION FOR 1866.—The aggregate of bullion assayed during the fiscal year of 1866, as per official returns, was \$81,389,541. Of this amount, \$73,032,805 was assayed in the Pacific and Rocky Mountain States and Territories. The remainder was chiefly in the Atlantic States and on the seaboard cities. It is estimated that 25 per cent. of the gold product escaped assayment.

THE SUTTER TITLE.—The Sacramento Bee says that, with the exception of its accompanying map, the United States patent for the land claimed by John A. Sutter has been recorded in the Sacramento County Recorder's office. The work was completed on Monday last. The patent has also to be recorded by the Recorders of Yuba and Sutter counties.

GOLD IN GEORGIA.—The Atlanta Intelligencer speaks of having seen a pound of "dirt from a lot of land in Lumpkin county," washed by the "pan process," which yielded at the rate of \$500 to the ton. The sample tested was "from a larger quantity taken promiscuously from a vein averaging six feet in breadth"—probably decomposed quartz.

LOWER CALIFORNIA COLONIZATION SCHEME. The association representing the interest of this colony in San Francisco, have divided the capital stock into 3,000 shares, each of which contributes toward the expenses for entitling a portion of the colonial lands, its proportion of sixteen dollars, in full of all assessments. A number of these shares will, for the present, be issued free of extra cost to applicants. The land and town sites will be sold for the benefit of all shareholders.

NATURAL CURIOSITIES FOR CHRISTMAS.—At No. 522 Pine street, E. F. LORQUIN, the Naturalist, has on hand a beautiful assortment of glass globes full of Stuffed Birds, Shell and Wax Flowers, besides Feathered Birds and Butterflies, for ladies' hats, Shells, Sea-weeds, etc.

THE MINING AND SCIENTIFIC PRESS. of San Francisco, comes to us this week printed on the loveliest white paper, and only seventeen days old. It is the best mining journal in the country.—Colorado Journal, Dec. 4th.

Endorsement by the Miners' State Convention

The following resolution was adopted by the California Miners' State Convention, held at Sacramento, Jan. 17th, 1866:

Resolved, That we regard a mining paper or journal of great importance to the mining interest of California, and we recommend the Mining and Scientific Press, of San Francisco, to the consideration and support of the miners of the Pacific coast.

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the requirements of the Department, and properly filed all necessary papers in Claim Agents.

Postage.—The postage on the Mining and Scientific Press to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

MINING SHAREHOLDERS' DIRECTORY

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location, Amount of Assessment, Date of Meeting, Day of Delinquent Sale, and Amount and Time of Payment of Dividends.

NAME	AMT OF	DAY	OFFICE
AND LOCATION.	ASSESSMENT	DELINQUENT.	
Anchor River Channel B. G. M. Co.	\$2	Dec 28-Jan 14	
Awala S. M. Co.	\$1	Jan 21-Feb 11	
Chaparral Hill G. & S. M. Co.	\$1	Dec 10-Dec 31	
Crown Point dividend.		Payable Dec 15	
Confidence S. M. Co., Storey Co., Nev., div. 10¢.		Pay July 9	
Folsom S. M. Co.	\$1	Dec 19-Jan 7	
Central S. M. Co.	\$2	Dec 19-Jan 3	
Oso Pecho G. & S. M. Co.	\$3	Jan 3-Jan 21	
El Teodoro S. M. Co.		Annual Meeting Jan 7	
Eureka, San Juan, dividend \$1.00 per sh.		Pay Ind 17-Sept 3	
Enterprise S. M. Co. dividend.		Payable Dec 7	
Forest Springs Q. M. Co.	\$16	Jan 11-Jan 25	
Great Central M. Co.	\$1	Jan 26-Feb 14	
Gould & Curry, dividend \$1.00 per sh.		Payable June 8	
Golden Rule M. Co., dividend.		Payable Dec 21	
Gold Quarrying Co.	\$10	Jan 11-Jan 23	
Hancock M. Co.	\$1	Jan 22-Feb 8	
Hansen C. M. Co.	\$1	Dec 10-Jan 5	
Hope Travel M. Co.	\$1	Dec 22-Jan 15	
Ilale & Norcross, dividend.		Payable Dec 29	
Ilale & Norcross M. Co.		Meeting Jan 9	
Imperial G. & S. M. Co., dividend \$5 sh.		Payable Dec 15	
Independent G. M. Co. dividend.		Payable Dec 15	
Josephine C. M. Co.	\$1	Jan 15-Feb 4	
Jefferson G. & S. M. Co., Yuba Co., div. 10¢ sh.		Payable Aug 23	
Keystone M. Co., Calaveras Co.	\$10	Jan 21-Feb 11	
La Blanca G. & S. M. Co.	\$1.50	Jan 15-Jan 31	
Melrose Stanislaus G. & S. M. Co.	\$2	Jan 14-Feb 4	
Mount Tenabo S. M. Co.	\$2	Jan 4-Jan 22	
Mineral Mountain G. & S. M. Co.	\$10	Dec 10-Dec 31	
Nonsparell G. M. Co.	\$1.50	Jan 22-Feb 18	
North Star G. & S. M. Co.	\$1	Dec 10-Jan 5	
Nassassari S. M. Co.		Annual Meeting Jan 2	
Overman S. M. Co.	\$10	Jan 15-Feb 4	
Ophir S. M. Co.	\$5	Jan 21-Feb 15	
Pacific Coal M. Co.	\$5	Dec 24-Jan 21	
Palmer and Dolores S. M. Co., Mex.	\$2	Jan 5-Jan 21	
Peninsula M. Co.	\$1	Annual Meeting Jan 1	
Rattlesnake G. & S. M. Co.		Meeting Jan 1	
Siskiyoun M. Co.	\$5	Jan 21-Feb 29	
Santa Cruz P. O. W. 50¢		Jan 5-Jan 21	
Santiago M. Co., dividend.		Payable Oct 8	
Savage S. M. Co. dividend.		Payable Dec 8	
Sierra S. M. Co.	\$4	Jan 15-Feb 2	
Sierra Nevada S. M. Co.		Annual Meeting Jan 14	
Texas Flat M. Co.	\$25	Dec 29-Jan 21	
Triunfo G. & S. M. Co.		Nov 30-Jan 31	
Yellow Jacket S. M. Co., div. \$75 sh.		Payable Dec 15	

* Those marked with an asterisk (*) are advertised in this Journal.

San Francisco Stock and Exchange Board.

FRIDAY EVENING, December 28, 1866.		
	Bid.	Ask.
United States 7 1/8-10ths.	\$7 7/8	\$7 7/8
Gov. Legal Tender Notes.	75	76
State Bonds, 7 1/2 cent.	83	87
San Francisco 10 1/2 cent.	100	102
San Francisco Bonds, 1855, 6 1/2 cent.	80	95
San Francisco Gas.	64 1/2	65 1/2
San Francisco Bonds, 1853, 6 1/2 cent.	71	74
Sacramento City Bonds, 6 cent.	20	21
Sacramento County Bonds, 6 1/2 cent.	52	65
Marysville Bonds, 10 1/2 cent.	75	85
Stockton Bonds, 10 1/2 cent.	75	85
Yuba County Bonds, 10 1/2 cent.	75	85
Butte County Bonds, 10 1/2 cent.	70	80
California Navigation Co.	63 1/2	64 1/2
State Telegraph Stock.	29	34
Sacramento Gas Co.	—	65
Spring Valley Water Co.	—	60 1/2

RAILROADS.

Sacramento Valley Railroad.	—	60
Oroville Railroad.	55	60
Central Railroad Co.	—	55
North Beach and Mission.	46	47

MINING STOCKS.

Alpha.	\$125	\$—
Bullion, G. H.	20	21
Becher.	150	134
Confidence.	68	72
Ophir.	125	130
Gould & Curry.	920	670
Empire M. & M. Co.	207	210
Savage.	2050	210
Chlorine Potash.	208	210
Hale & Norcross.	2500	—
Yellow Jacket.	1245	1235
Overman.	16	17
Crowa Point.	1250	1250
Imperial.	130	132

San Francisco Market Rates.

WHOLESALE PRICES.

FRIDAY, Dec. 28, 1866.		
Flour extra, 100 lbs.	6 00	6 75
do Superfine.	5 00	5 50
Coru Meal, 100 lbs.	2 00	2 50
Wheat, 100 lbs.	1 50	1 85
Oats, 100 lbs.	1 40	1 50
Barley, 100 lbs.	95	1 00
Beans, 100 lbs.	2 50	3 50
Potatoes, 100 lbs.	80	1 25
Hay, 100 lbs.	8 00	15 00
Live Oak Wood, 100 cord.	8 00	10 00
Beef, on foot, 100 lbs.	5 00	6 00
Beef, extra, dressed, 100 lbs.	10 00	12 1/2
Suice, on foot, 100 lbs.	3 00	8 50
Hogs, on foot, 100 lbs.	7 1/2	8 00
Hogs, dressed, 100 lbs.	10 00	12 00

GROCERIES, ETC.

Sugar, crushed, 100 lbs.	—	13 1/2
do China.	—	10 00
do Costa Rica, 100 lbs.	25	25
do Rio.	23 1/2	—
Tea, Japan, 100 lbs.	80	90
do Green.	60	1 25
Hawaiian Rice, 100 lbs.	0 00	—
China do.	62 1/2	7 1/2
Coal Oil, 100 gal.	62 1/2	70
Candle, 100 lbs.	10 00	20 1/2
Ketchup Butter, 100 lbs.	30 00	40
Isthmus do.	25	35
Cheese, California, 100 lbs.	10 00	17 00
Eggs, 10 doz.	50 00	—
Lard, 100 lbs.	15 00	16 00
Ham and Bacon, 100 lbs.	18 00	20 00
Shoulders.	12 1/2	15 00

Retail Prices.

Butter, California fresh 100 lbs.	45 00	65 00
do pickled 100 lbs.	40 00	60 00
do Oregon.	35 00	—
do New York, 100 lbs.	40 00	50 00
Cheese, 100 lbs.	15 00	25 00
do do.	30 00	40 00
Eggs, 10 doz.	50 00	65 00
do do.	20 00	25 00
Hams and Bacon, 100 lbs.	22 1/2	25 00
Cranberries, 100 gal.	75 00	1 00

Potatoes, 100 lbs.	1 1/2	2 00
Tomatoes, 100 lbs.	1 1/2	2 00
Onions, 100 lbs.	3 00	6 00
Apples, No. 1, 100 lbs.	3 00	6 00
Pears, table 100 lbs.	8 00	10 00
Plums, 100 lbs.	20 00	22 00
Peaches, dried, 100 lbs.	12 1/2	16 00
Oranges, 100 lbs.	50 00	—
Lemons, 100 lbs.	75 00	—
Chickens, apiece.	50 00	75 00
Soap—100 lb. C. O.	8 00	10 00
Castile.	14 00	15 00

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

ANSTED'S Gold Seekers Manual. 1 vol. 12mo. cloth.	\$1 75
ANTISELL.—The Manufacture of Photogenic or Hydro-Carbon Oils, from Coal and other Bituminous Substances, capable of supplying Burning Fluids. By Thomas Antsell, M. D. 1 vol. 8vo.	3 00
BUCKLAND (Rev. Wm.)—Geology and Mineralogy. 2 vols. 8vo. cloth.	10 00
DUFRENOY.—Mineralogia. 5 volumes, 8vo.	20 00
DANA'S Manual of Mineralogy. Revised edition. 250 illustrations. 12mo. cloth. New Haven, 1863. School Edition.	2 25
DANA'S Manual of Geology. Numerous illustrations. 8vo. half morocco. Philadelphia, 1863.	6 75
DANA'S Text-Book of Geology. Illustrated. 12mo. cloth. Philadelphia, 1864.	2 00
ELDERHORN'S Blowpipe.—Analysis and Determinative Mineralogy. Third edition, revised. 8vo. cloth. Philadelphia, 1865.	1 60
FAIRBAIRN.—Iron: its History, properties, and Processes of Manufacture. By Wm. Fairbairn, C. E., LL. D. 1 vol. 8vo. New Edition.	4 00
FEUTCHWANGER.—A Treatise on Gems. 1 vol. 8vo. cloth.	1 75
GOODYEAR'S Translation. A Treatise on the Assaying of Copper, Silver, Lead, Gold and Mercury, from the German of Th. Bodenmann and Bruno Kerl. 1 vol. 12mo. cloth.	2 50
HUMBLE.—Dictionary of Geology and Mineralogy. Third Edition, Revised. 1 vol. 8vo. cloth.	9 00
HOSKOLD'S Practical Treatise on Mining Land and Railway Surveying, Engineering, Etc. 1 vol. 8vo. cloth.	16 00
KUSTEL.—Nevada and California Processes of Silver and Gold Extraction, for general use, and especially for the Mining Public of California and Nevada; also, a description of the General Metallurgy of Silver Ores. By Guido Kustel, Mining Engineer. Illustrated by accurate engraving. 1 vol. 8vo. cloth.	5 00
LAMBORN.—Rudimentary Treatise on the Metallurgy of Copper. 1 vol. 12mo. limp cloth. Illustrated.	1 00
LAMBORN.—Rudimentary Treatise on the Metallurgy of Silver and Lead. 1 vol. 12mo. limp cloth. Illustrated.	1 00
MITCHELL'S Manual of Practical Assaying. 1 vol. 8vo. cloth.	10 50
MAKINS.—A Manual of Metallurgy, more particularly of the Precious Metals, including the Methods of Assaying them. By G. H. Makins. 1 vol. 12mo. cloth. Illustrated by upwards of 50 engravings.	3 50
OVERMAN (Fred.)—A Treatise on Metallurgy, comprising Mining, and General and Particular Metallurgical Operations. 1 vol. 8vo. cloth.	7 50
PIGOTT.—The Chemistry and Metallurgy of Copper. By A. Snowdon Pigott, M. D. 1 vol. 12mo. cloth.	2 00
PHILLIPS AND DARLINGTON.—Records of Mining and Metallurgy; or, Facts and Memoranda for the Use of Mine Agents and Smelters. By J. A. Phillips and John Darlington. 1 vol. 12mo. cloth.	4 00
PERCY (John).—Metallurgy; the Art of Extracting Metals from their Ores, and adapting them to various Purposes of Manufacture. Iron and Steel. 1 vol. 8vo. cloth.	13 50
PLATTNER AND MUSPRATT on the Use of the Blowpipe. 47 Diagrams. Third edition, revised. 8vo. cloth. London, 1854.	6 00
Practical Use of the Blowpipe; being a Graduated Course of Analysis. 12mo. cloth. New York, 1858.	2 00
SCOFFERN'S Useful Metals and their Alloys. 1 vol. cloth.	6 50
SMITH'S Blowpipe.—Vade-Mecum. The Blowpipe. Characters of Minerals Alphabetically Arranged. 8vo. cloth. London, 1852.	1 75
URE'S Dictionary of Arts, Manufactures, and Mines. 2300 Engravings. From last London edition. 3 vols. 8vo. cloth. New York.	16 50
WHITNEY.—A Geological Survey of California. Report of Field Work from 1860 to 1864. By J. D. Whitney. Per. vol. quarto.	3 75
WHEELER & RANDALL'S Quartz Operator's Handbook. Flexible cloth, 12mo. San Francisco, 1863.	1 00

Any of the above Books will be furnished by return mail or express, on receipt of the price with postage added. Any other books desired will also be furnished at the lowest San Francisco retail prices.

Address,
DEWEY & Co.,
Mining and Scientific Press Office, San Francisco.
1415 14th St.

Blanks, Blank Mining Books, Constitution and By-Laws

—FOR—
Mining and Prospecting Companies

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VOLUME TWELFTH.—The Mining and Scientific Press with its last issue, commenced its twelfth volume. Since Dewey & Co. have "held the ribbons" its gain has been rapidly toward a perfect journal. Its appearance evidences its prosperity, but doubtless, like some of the rest of us, it can stand increased encouragement. Let such be given, and our word for it, volume thirteen will acknowledge receipt.—[Golden Era.]

To Miners and Families Living in the Country.

DR. BOYNTON'S MEDICINE CHEST, is put up in San Francisco expressly for the use of families, and consists of a chest of moderate dimensions, neat in its appearance, containing those household articles, simple remedies, that families always feel like keeping on hand for immediate and common use, and a book of brief instructions, describing their use.

The object in preparing this Chest was not to make doctors, but for the simple purpose of nursing; hence, a majority of the remedies were such as are familiar to nearly all who are advanced in life, and the book is simply a representation of those plain truths relating to the department of the nurse already set forth in more extensive works. It was the object, not to say many things, but to say few things—to simplify and make plain for common use. And in selecting the contents of the Chest, the object was not to set forth something new and wonderful, but those of old and acknowledged worth.

In view of the above facts, physicians have everywhere encouraged the circulation of this chest in unmistakable terms. They recognize the fact that families do not, will not, need not call on them on the occasion of every slight derangement or infirmity. They do not and cannot deny the fact that such obligations of homo care rest upon heads of families.

The book gives a description of nearly every medicine in the collection, their use, and their component parts, so that every person may know what he is receiving into his stomach or applying to his person. This openness and frankness is regarded by the best practitioners, and all considerate persons as justice, more than policy. The universal conviction of the more thoughtful is, that that which relates to our health and physical well-being in this life should, above all things, be known, and not kept in the darkness of secrecy.

In introducing this chest in the country, we always first submit it to the criticism of practicing physicians, and feeling the importance and seeing the necessity in this sparsely settled country of home-nursing, and seeing the adaptability of this chest, physicians in San Francisco, Sacramento, Stockton, Knight's Landing, Cacheville, Marysville, Colusa, Oroville, Lodi, Lincoln, Folsom, and Auburn, have given it their hearty sanction. Seeing the necessity on this coast of people relying upon themselves in such matters, physicians in this State have remarked: "If I could choose but one for a family, I would every time choose the nurse instead of the physician." "If families would get a collection of simple remedies, with plain instructions for their use, they would do away with half the doctoring." "All families should possess themselves of a collection of common remedies, with plain instructions for their use." "I would like to see the chest in every family." "It is a convenience"—"it is useful"—"much sickness and much expense might be saved by such home care."

We subjoin the following statistics from Sutter County, California:

"The undersigned have had Dr. Boynton's Medicine Chest in their families for the last few months, and willingly state that they regard it as a wise provision, strictly practical and highly useful."

Every person having the chest in the above named county has signed the above article. The publishing of the names being unnecessary, we withhold them and save space.

The undersigned have known Dr. Boynton's Medicine Chest for the last few months, and regard it as a wise provision, and highly useful in every family. The medicines being put up with instructions, its utility, convenience, and great economy are unquestionable.

Signed by Judge HURLBERT and 45 others.

STATE OF CALIFORNIA, } ss.
County of Sutter,
I, C. E. WILCOXEN, County Clerk in and for said County, hereby certify that I am personally acquainted with a majority of the individuals whose names are subscribed to the foregoing certificates, and that they are good and substantial citizens of said county.

Witness my hand and official seal this 27th day of [L.S.] December, A. D. 1865.
C. E. WILCOXEN, County Clerk.

Agents wanted in every County to sell this Family Chest. Their compensation will be a liberal commission on all sales. The Agent should be a resident of the district which he is to canvass, and accompany his application with good references, and of this city if possible.

We can give further particulars when desired. All letters should be addressed through the post office, to
E. NORRIS,
1213 Clay St. San Francisco.

STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the Mining and Scientific Press.



Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County—

From the *Miner* of Dec. 15th: The Empire Mill and Mining Company paid a dividend of \$15 per share last Saturday, and carry forward a surplus of nearly \$18,000. Within the past ninety days they have taken from the mine about 7,500 tons of ore—on an average of eighty tons per day, and have now at their dumps and at the mill some 3,000 tons. A winze has been sunk to the depth of twenty feet on the vein lately struck in the 700-foot level, with fine prospects of a valuable supply of ore.

On Saturday last the stockholders of the Leviathan Gold and Silver Mining Company met pursuant to call, and by unanimous vote sold to E. Arnold all the stock standing in the name of the company. Mr. A. purchased for an Illinois company, and a large majority of the stock being now in his hands, the management will be in their control, giving them a fair chance to go ahead and prospect the mine without "let or hindrance."

From same of 22d: We visited the Washington mill on Tuesday, and we were well pleased with all we saw. Only a portion of the works were running at the time, the stamps were pulverizing ore for the first working, and the furnaces drying salt and tailings to mix with the ore in roasting.

From the *Silver Mountain Bulletin* of Dec. 15th: A body of rich ore was struck in the second gallery of the George Washington mine, during the latter part of the past week, that will yield \$1,000 per ton.

Mylett & Co. cut through the ledge in the Del Monte claim on Tuesday afternoon, exposing a pay vein of ore five feet in thickness—every piece of the quartz exhibiting ruby silver freely. The ledge at the present depth of the shaft (thirty feet) has a slight dip to the west.

The contract for running the tunnel in the I. X. L. has been awarded to H. Jardine and R. K. Love. They will commence work on Monday.

Calaveras County—

From the *Chronicle* of Dec. 15th: Mining intelligence from the Whisky Slide District continues most favorable. By Matthews, of Foster, Matthews & Co., we are informed that in the bottom of their shaft, which is 112 feet in depth, they have struck ore of remarkable richness. This claim has been thoroughly prospected, rock having been taken out of the shaft in a number of places and tried, both by assay and working process, and in no instance has it shown less than twenty-five dollars per ton. It is a solid, unbroken vein of gold-bearing quartz, six feet in width.

Colusa County—

The Lyon Company has erected works for smelting copper at a cost of \$10,000, and commenced operations. The breaking of the fly-wheel will suspend operations for a few days.

El Dorado County—

From the *Placerville Courier*: The number of men seen daily wending their ways, with picks and shovels on their shoulders, toward the various ravines and gulches surrounding the city, would seem to cast some doubt upon the assertion that the surface mines in this neighborhood are worked out. True, the times for taking out one, two and three ounces per day to the man are past, but many persons find sluicing the most remunerative pursuit to which they can turn their hands, even where something less than an ounce a day is the average yield; consequently, since the rains have commenced quite a revival of active picking has taken place in claims formerly deserted.

Mariposa County—

From the *Gazette* of Dec. 22d: We learn that work has been resumed on the Princeton Mine. The reason given for the suspension of operations for so long a time is, that the late holders would not go to the expense of working without an immediate return. The present company are more plucky and likely to meet the reward they so well deserve. The old pillars are being removed, and work is in active progress. We are informed on reliable authority that the mine is now paying from fifteen to thirty dollars per ton, and there is enough rock in sight to keep the men going for the next six months.

The *Sonora Democrat* says that Messrs. McGee and Flanagan, whose mining claim is located near Coulterville, a few days ago came across a quartz boulder in their claim from which they pounded out one hundred and fifty ounces of gold.

Mono County—

Letter from Benton to the *Aurora Union* of December 15th says: On arriving here I found Dr. Partz's reduction works in "full tide of successful operation." The furnace was kept at work some twelve days without a stop, turning out bullion by the ton.

Returns have just been received of the ore sent to San Francisco from the Rockingham lode, which sold there at six hundred and forty-seven dollars per ton. Another shipment from the same mine left here yesterday. The Merrimack is another rich ledge, thought to be equal to the Rockingham. Then there are the Camanche, Bureka, Kearsarge, and many others that I cannot now name, all looking well and improving every day they are worked. The Diana company have sunk one of their shafts to a depth of one hundred and twenty feet, taking out enough as they sink to keep their mill running almost constantly day and night.

Nevada County—

From the *Gazette* of December 19th: The Homestake company, who have been engaged for some time in running a tunnel for their ledge, at Myer's Ravine, struck the vein yesterday, and feel quite encouraged with the prospects. John Murphy, one of the owners, showed us some fine looking specimens from the ledge last evening. They have cut into the ledge about two and a half feet, but have not yet got through it.

From same of 20th: We were shown, yesterday, a rich specimen from the Wild Irishman ledge, situated near the head of Mud Flat. At a depth of thirty-five feet the ledge is two feet in width, and the rock shows free gold in abundance.

Same of 21st: The mill of the Eagle Gold and Silver Mining company, situated at Devil's Canon, in Enreka township, has made its first run on rock from the Grizzly ledge. We learn that twenty tons of rock crushed yielded twenty-one ounces of retorted gold, assaying something over seventeen dollars an ounce, and giving a yield per ton of eighteen dollars. The ledge where they are now getting rock is about two and a half feet in width. The company have eight ledges in the vicinity, which are known as the Grizzly Group. The mill has only five stamps at present, but more will be put in when needed.

Same of 24th: Mining operations have commenced in earnest at Scotch Flat; Bean & Co. commenced hydraulicizing day before yesterday, and the claims of Morrow & Co., Jacobs & Sargent, Cobb & Co., and Ashburn & Co., were started up yesterday. These companies have had every thing prepared to turn on the water as soon as they were satisfied of a permanent supply, and it is calculated that the amount of mining this session in that locality will exceed all that has been done heretofore.

The editor has recently visited Grass Valley. We give the summing up of his observations. The Empire mill has stopped a week for repairs. . . . The Henston Hill company is taking out very rich rock. The last crushing of rock taken from the north end of the level yielded \$170 a ton; and from the south end the yield was \$100 a ton. . . . The Union company—Findley & Co.—are yielding twenty-five tons a day, the daily yield being \$800 to \$1,000. Cambridge is crushing eleven tons a day, and last week cleared up 450 ounces of amalgam—the rock averaging \$43 a ton. The Lucky company are running their mill steadily, and doing well. Ophir is now down with a shaft 200 feet, and has struck a "stringer," which has been cut into eight feet, and they are not yet through it. The Allison Ranch company are running drifts and opening new ground. At present they employ only forty men, but will soon be working their usual force. The New York Hill company have 450 tons of rock ready for crushing, and will run it through the Rocky Bar mill. They are now down 460 feet on the incline.

Same of 26th says, that although one or two quartz mines in the vicinity were flooded by the storm, no flames had been blown down or any other special damage done. Miners were better prepared for a storm than heretofore.

From the *National* of December 21st: This morning a gentleman picked up a specimen, worth some \$10 or \$12, on Main street, just above our office. He imparted the information of his good luck to several of his friends, and in an instant the news was all over town. In less than an hour's time the whole of Main street, from the "Willows" to Dunk Wood's ranch, was staked off into claims. However, "nous verrons."

From the *Transcript* of December 21st: A short time since a rich lead was discovered by Mr. Arrington, near the Tecunsech mill, about four miles above Washington. Mr. Arrington recently moved into a cabin near the mill, and was engaged in prospecting a ledge in the vicinity. He noticed the croppings of a lead near the house, upon which he sunk a short distance, when he found a well defined lead about four feet in thickness. The quartz is of a milky whiteness, and contains a large amount of free gold. It is one of the most promising ledges that has been found upon the Yuba for a long time, and is located where the workmen at the mill were in the habit of passing three or four times every day. The ledges in this vicinity are in the same range as those at Enreka.

The *Union* of 16th says of the Cambridge

mine: The yield of amalgam from the crushing of last week, from Monday to Friday, was over three hundred ounces, and the rock averaged thirty-five dollars per ton. The ledge is of a good width, showing beautiful free gold, fine looking sulphurets and plenty of galena. Rock is being taken out in sufficient quantities to keep the Cambridge mill running night and day for some time. The Cambridge, according to present indications, is good for four hundred ounces of amalgam per week. It is on Howard Hill, one mile and a half west from Grass Valley.

Excelsior.—From the *Sun* of the 15th of December: The work on several of our mines goes bravely on. The Mohawk and Montreal company are taking out an abundance of good pay ore from their second level. The California company are still sinking their shaft near the Knickerbocker ledge, and a number of other companies are prosecuting their labor with untiring perseverance.

Placer County—

From the *Herald* of Dec. 22d: A friend informs us that Mr. Harpending has recently sold the "other half" of the Banker mine for \$225,000 in gold. This makes \$450,000 for the whole mine.

The erection of the quartz mill on the St. Lawrence claim, near Ophir, is being prosecuted with vigor. The owners think they will be ready for work by Christmas.

Capt. Holdrege has issued hand bills for bids to sink an incline shaft, of 25, 50, or 100 feet on the Conrad Ledge. His address is the American Hotel, Auburn.

The late storm will prove a rich harvest for the miners. All the ditches and ravines are running full of water, and the miners are starting in to work with a will—the result will be a golden harvest for California, and thousands of dollars will be taken out.

From the *Stars and Stripes* of Dec. 19th: The New Mexico claim is located about one-fourth of a mile from the Mount Pleasant House. An incline shaft has been run on the ledge to the depth of twelve feet. The ledge is fifteen inches wide. From a crushing of nine tons of rock, a bar of gold weighing five ounces, was obtained. The nine tons of rock contained about five hundred pounds of sulphurets, which were not worked, nor were the blankets cleaned up after the crushing. Work on the claim has been suspended until spring. The estimated value per ton of the rock if carefully worked, is about \$25. An extension of the New Mexico called the Savage, has been located. The two companies will go to work in a few days, and for the purpose of prospecting the ledges will sink a shaft 100 feet deep on the line of the two claims.

Plumas County—

From the *Union* of Dec. 15th: The mining companies at work in the old Elizabethtown diggings are all doing well. O'Neill & Co., near Newtown, are also getting well paid for their work. Loonau & Co. are running a prospecting tunnel into the hack channel of the old Plumas claims. O'Neill, Cahill & Co. are ground-slucing at the mouth of "Donkey" Ravine. All the companies at Black Hawk are at work with good prospects.

At Nelson Point and vicinity, times are very dull; miners have all suspended operations in the river and creek, and are fixing up for the winter. Ellerman & Co., in their claim on High Bar, are doing well. Jackson, Jolley and Mitchell have their iron hose all laid and are waiting for water. A. F. Hardy has purchased W. V. Banner's interest in the old Richards claims. Frank Kane is doing tolerably well on Willow Creek, making good wages. White and Richards have struck good pay, on a high bar, at the mouth of Willow Creek, and are waiting for water. White and Fell have built a house near Feather River Bridge, and are making preparations to work Bowen's Bar this winter. Reports have it that Mr. Linn and one other company, at the mouth of Greenhorn Creek, took out \$25 a day to the man, last week (doubtful). I am told that Billy McKinney & Co. have struck good diggings on Jackson Creek. Now, if these reports prove true, as I believe they will, there is room for five hundred or a thousand miners in this section, and plenty of water the year round. Jackson Creek, ten or twelve miles long, has never (I am told) had a hole sunk to the bed rock, until McKinney went to work on it.

On Hopkins Creek, there is but very little work being done at the present time; the snow is too deep for outside mining. Coyle O'Neil & Co. are making good wages. Dodge & Co., at Last Chance, are doing about the same, as usual. McSheny & Co., Betts & Co., McManus & Co., and, I believe, all the other miners on the creek, are making wages, except the "Johns."

On Poorman's Creek, outside mining is suspended for the winter. Brady, Martin & Co., in Enterprise tunnel, are making from eight to ten dollars per day to the man. Baird, in the old Catvill or Kelley tunnel, has been doing well. A. Turner's claim is also paying well. Gas Whiting & Co. are running a tunnel under

the lake; these promise to be the best claims on Poorman's. Evans & Co. have started a tunnel in the hill, on the west side of Poorman's Creek, on the Blue Gravel Lead.

At Washington Hill, the American Tunnel Company have got every thing in shipshape, and in good working order. Black, in the Union claims, is taking out some good pay dirt. The boys in the Setting Sun, are driving away in their new tunnel; they are in about 300 feet and will have to run about 600 feet more.

At Sawpit Flat, everybody is at work under ground; the claims are prospecting very well; the Eagle and New York, as good as ever, if not better; the Union is also doing well. The Franklin company are running for a hack channel. The Buckeye company think they will strike through in a short time. The Monitor company have resumed operations again.

NEVADA.

Washoe—

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

From the *Gold Hill News* of Dec. 17th: The Imperial and Empire have erected a new building near their hoisting works, at the new shaft, to be used as carpenter shop until such time as the new works are put up. The work of sinking has commenced again. The new dump is completed, and adds much to the convenience of loading the wagons. This is the only mine in Gold Hill which has a self-loading dump.

An extensive and valuable body of ore is now being developed in the Yellow Jacket mine. Every ton of it, it is believed, will average not less than from \$35 to \$45 per ton, mill process—and that, too, after selecting say five tons per diem first-class ore, that will mill, by "Frieberg process," about \$300 to \$400 per ton. The upper levels in that mine also show considerable yet, left in stoping up. We were told that they hoist 150 tons of ore per diem, averaging, including "sack ore," \$40 per ton.

The Confidence mine is looking well. The ore will probably mill all the way from \$23 to \$35 per ton, and all over \$18 or \$19 per ton will be net profit. We calculate they have enough of this class of ore in sight to pay from \$10 to \$12 (one hundred dollars per foot) dividends. We understand that this month they will be out of debt, and commence paying the first dividend in January next. The prospects in the lower level are also very promising, and it is expected that as the Yellow Jacket open their 605 feet level, they will drain the Confidence, when operations in the lower level will be resumed.

From same of 18th: The Pinte Mill is being thoroughly overhauled and put in good repair. The cylinder is being bored out and new valves put in. A large amount of ore has accumulated at the mill during the stoppage, which will soon roll in bricks.

The annual statement of the Empire Mill and Mining Company shows the receipts for the past year to have been \$486,778.78; disbursements, \$452,322.51; excess of receipts, \$32,456.27. The disbursements include \$14,329.17, in payment of debts; \$32,400 in dividends paid; \$15,000 cost of mining ores; \$26,944.11, construction of Imperial-Empire shaft. The total net earnings for the year were \$121,129.55. The President in his report took strong grounds in favor of subscribing to the Suto Tunnel, saying that "the Suto Tunnel, or some similar work, must be constructed or the mines abandoned at a depth of 1,800 or 2,000 feet." The Company adopted resolutions empowering the Trustees to pledge the aid of the Company to the amount of \$15,000 in aid of the Suto Tunnel enterprise.

Reese River—

From the *Reveille* of December 14th: The Plymouth company, of New York, recently purchased three mines on Lander Hill—the Parent, Kalsced, Zimmerman & Jacobs. The work of development, which is scarcely commenced, will be entered upon in systematic style.

In the new district discovered in October by S. M. Beard, the mines included in Chihuahu Canyon have been purchased by Eastern capital, and the work is being prosecuted. A mill will be erected in the spring.

On the Florida mine, Lander Hill, the greatest depth of the incline shaft is 190 feet. The average width of the vein is ten inches. A late crushing of four and a half tons gave a yield of \$322 per ton. A subsequent one of five tons yielded an average of \$370 per ton. In one level there are in full view not less than \$15,000 worth of the same quality of ore. The property is owned by Eastern capitalists.

The same contains an eloquent showing up of the richness of the southeastern districts of the State.

From the same of 18th: The one mill at Silver Bend, and the several mining properties being developed there, employ constantly a number of teams in transporting supplies from this city. Before the close of the year a mill will be finished and in motion in the Hot

Creek District. Northumberland, Danville, Reville and Palmuagat, will wheel into line before long, with running mills and yielding mines. The prospects for a lively business for our merchants in 1867 are bright. The Reville district is attracting a large measure of the public attention, which increases as each returning party tells the tale of the mineral marvels it has seen there.

Esmeralda.

From the *Union* of December 15th: In the Juniata, ore has just been struck which will average \$40 per ton. Ore can be selected which will pay as high as \$300 per ton. The ledge is being worked at a depth of about two hundred and sixty-five feet from the surface, and is thicker than the shaft. This, we believe, is deeper than any mine that has been worked in this district, which is the most encouraging feature of the strike. The miners are still sinking and the ore is improving.

The mines in the district on Walker River are looked to with bright anticipations. From conversation with parties who have visited these mines we are satisfied that a large quantity of rich ore has already been discovered and prospected.

Humboldt.

From the *Register* of December 15th: Star City is looking up. The Yankee and American Basin companies have flattering prospects.... The Whitmore will resume operations as soon as their mill affairs are arranged on the Truckee.... The Almira has paid off its indebtedness, and an agent is on the way from New York to start work in the mine. The Sheba mill, under the supervision of J. T. Maclean, is now doing good work—running night and day—on rock from the Yosemite and other rich ledges in the East Range.

The Washington company's property has been sold to New York parties. The ledge is being stripped, and a tunnel will be at once commenced. The croppings look well.

Desert district is looking up. The Utica company has thirty men at work, cutting a ditch to get water from Humboldt Lake, and preparing to erect a quartz mill.

The Montezuma smelting furnaces are working to entire satisfaction—better than ever before. They have now been fired upwards of four weeks, and look as if they would stand the heat for that much longer, before needing new lining.

Black Rock.

From the *Virginia Union* of December 19th: Mr. Elliott left Susanville, the nearest point to the mines, on the 10th, and a special messenger has just arrived from Black Rock, bringing the joyful intelligence that the mill had made a most successful run, and yielded more "sands" than had ever been expected by the most sanguine; and so the Honey Lakers immediately got on a huge jollification, for the largest and best ledges are owned by the citizens in and about Honey Lake and Long Valley. There are hundreds of thousands of tons of this peculiar ore in sight, and if the tidings be substantiated by further returns of bullion, the richness of the country is without a parallel in mining.

IDAHO.

From the *Idaho Statesman* of Nov. 23d: A letter from Lewiston says there will be considerable mining all winter on Snake river, and on the Palouse. These mines are always open for winter work. Though they don't yield as profitably as some of the placer mines in the mountain districts, they pay fair wages, and afford employment to those who are disposed to work the year round. Good ten dollar diggings have been struck twenty-five miles from here in the direction of the Palouse, on some tributaries of that stream near the Camas ground. Twenty claims have been taken up and as many miners expect to winter there. Two men came in this week, bought grub and went back. They think the ground is much more extensive than yet prospected. Including Chinamen, there will be from 300 to 500 men engaged in mining all winter.

Letter from Rocky Bar to the *World* of Nov. 24th: Messrs. Van Wyck & Marx have finished the road from Cayuse Creek to Bonaparte Hill, and have taken in their machinery for a mill. You will hear of some big clean-ups as soon as they commence crushing. They have already found one new ledge, some 300 feet below the Bonaparte lode, which is two feet thick on the surface. Gold can be seen in all the rock.

Messrs. Green & Brown are running the Waddingham mill, and crushing rock from the Confederate Star lode. They cleaned up, after running nine days, \$9,600.

The Idaho mill will be running all winter. Their ledge ranks among the best and they always make a good clean up.

The Ida Elmore Company are taking out some very rich rock.

The Benson mill is now running at Red Warrior with good rock.

There are some three or four arastras running and all are doing well.

The Pittsburg Company are sinking a deep shaft in the extension of the Ida Elmore.

The placer diggings below the Bonaparte Hill are paying well.

Messrs. Van Wyck & Marx found two men at work near Bonaparte Hill, as they were making their road, who had accumulated some \$12,000 in gold, unknown to any one.

In Owyhee district, L. W. Greenwell has moved the More & Vass mill to the Flint district, and will soon begin upon Rising Star rock.... The Donovan and Thomas ledge has been worked to the depth of forty feet and prospects richer all the way. The vein is four feet wide at that depth.

The first extension north on the Poorman ledge, embracing six hundred feet, has been sold in New York for the sum of \$150,000. The purchase is made by a newly organized company, and instructions to commence work are expected soon.

The *World* has this Idaho City item: A careful prospect has been made of the high hills across from this city, back of Buena Vista Bar, during the last few weeks, under the direction of a company formed for that purpose, and it is now an ascertained fact that from the summit to the foot of the whole line, good pay can be realized. The work in these new diggings will be prosecuted so long as the weather will permit.

The Cosmos Mining Company has failed. The *Statesman* says a man by the name of Jones of New York, treasurer of the company, has sued for \$75,000 and attached the property. Other suits amounting to some \$17,000 had been commenced. There was great excitement in Silver City, and threats of violence towards Mr. Musgrave the agent of the company there. So much has been said in regard to the Silver Cord, one of the mines of the company, that the matter has a singular look.

LATER.—The *Andalanche* contradicts the above report, and says the mill will soon start up, and that a new crew of men will be employed at the mine.

COLORADO.

From the *Journal* of Dec. 8th: The Consolidated Gregory and the Pioneer Smelting Company have been consolidated since the first of the month.... Mr. G. K. Sablin returned from the East recently, and talks of starting up the Union Company's works on the Bates. He has an 8-inch pump on the way out.

Mr. Bruce has taken out about \$50,000 during the past summer from his claim on the Foote & Simmons, and with the little old water stamp mill of the Holman Company. The premium on gold has paid his expenses, so that he has made, in currency, all that he has taken out in gold.

We were recently shown by William Canning a fine piece of argentiferous galena taken from the Ruby lode, Illinois Central district. The shaft from which this specimen was taken, is fifty-eight feet in depth, with a 30-inch crevice, four feet between walls.

Yesterday Mr. Bruce tried twenty pounds of Red Mountain ore. He found the yield equal to about \$160 per ton.

Mr. Meade informs us that the University Company has again got a good pay vein on the Gunnell, at a depth of 270 feet, having had sixty of what is called cap. Mr. M. has purchased the Gregory Extension engine and hoisting rig of the Black Hawk Company, which he is setting up on the Gunnell mine. Five or six cords of the company's Gunnell ore, crushed in Kimber Bros.' stamp mill in Eureka, yielded at the rate of \$300 per cord. Mr. Meade has fitted up the company's 15-stamp mill here in Black Hawk—old Rhodes' mill—and is going to start it Monday.

The Bobtail Drainage Company have had bad luck with their pump, have broken two large driving pinions, one after the other. These were brought from the East; but Langford & Co. yesterday cast for them a 3,000 pound wheel which will stand. The pump will soon be in operation.

MONTANA.

From the *Post* of December 8th: Eighty and a half tons of quartz from the Whitlatch Union yielded \$5,272.80. This was the result of 5½ days' run of Turley's ten-stamp mill. This was the first run, and it is estimated that at least \$800 was left in the batteries, which would give an average of \$71.90 per ton. This is the best clean-up yet made in the Territory. The ore was not selected.

Five new dry gulches have been discovered the past week between Indian and Beaver Creeks, seventeen miles from Helena. From ten to fifty cents to the pan have been washed out. The mines are shallow, and as soon as a ditch four miles long is completed to furnish those diggings with water, another rich gold producing section will be opened and add to the coffers of Montana.

The *Stockton Herald* says: An old citizen of San Joaquin county, just returned from Montana, gives a deplorable account of the condition of that country. Thousands of men

are endeavoring to get away from there. He says men can only work four months in the year; the rest of the year they are engaged in keeping themselves from freezing. Unlike California, the small gulches yield no gold; only in the large gulches can any gold be found.

From the *Rocky Mountain Gazette* of Nov. 24th: Prof. Steitz's second "run" is a huge cake of unadulterated silver, weighing 150 pounds avoirdupois. It was taken from 4,000 pounds of crude ore from the Legal Tender.... The accounts from the French Bar mines are highly encouraging. The gold is very pure and comes fully up to the standard of the Highland Gulch gold, which, it is said, is worth \$19 an ounce. French Bar is at least two miles long, and a mile in width, and consequently, will afford employment to a large number of men, when facilities are completed for working it to its full capacity.

A nugget of pure gold, worth \$160, was taken out of Highland Gulch a short time since.

OREGON.

From the *Oregonian* of December 14th: It is stated that Frank Cooper, of Salem, has discovered a vein of coal in the mountains about 20 miles from Portland.... Hitherto all the iron used in our foundries has been imported, but that sort of business will be soon played out. In the course of a few months the inexhaustible mines of Oswego will supply the Oregon demand, and, if we mistake not, turn the tide of freights the other way.

We have been shown some specimens of the Tillamook coal recently discovered. It is of the bituminous variety. Mr. Foley represents the discovery as situated within a very short distance of Tillamook bay, where it can be got out and put on board without hauling, at a comparatively trifling expense. The vein from which the specimens were taken shows indications of being a large one.

There are mines on the Columbia river, about ten miles below Umatilla, where a party have been at work during the past summer and fall making from \$6 to \$12 per day to the land.

A telegram from Jacksonville, Dec. 17th, says: The Red Beach diggings, near Randolph, have been found to be extensive. Some claims are paying one hundred dollars per day to the land.

Mining at Canyon City was going on with about the average summer's luck. The roads were excellent.

PACIFIC HYGIENIC HOME WATER CURE, at Fountain Farm, near Oakland. Chartered and conducted according to the teachings of the Hydropathic College of New York, by the Pacific Hygienic Home Association (Incorporated), B. J. SMITH, M. D., Consulting Physician; R. S. MACHEN, M. D., Attending Physician; W. G. W. HANFORD, Manager; H. ANDREWS, Business Agent. Office, Baths and Lecture Hall, No. 627 Sacramento street, between Montgomery and Kearny streets. Free Lectures every Tuesday and Friday evenings. 16v13-4f

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. n6v

To Owners of Mineral Cabinets.

A miner in Nevada has a lot of choice Crystals, which he desires to dispose of at reasonable rates to parties who may desire to complete their display of minerals. Address the office of the "Mining and Scientific Press." 19v13-tf

Mammoth Quartz Lode, Keysville District, Kern County.

"To all whom it may Concern."

ALL PARTIES negotiating for interests in the above Lode, would do well to examine titles before investing, as the legal title to a considerable portion thereof is vested in the undersigned.

WILLIAM MARSH,
W. L. KENNEDY.

Keysville, Kern County, Oct. 1, 1866. 16v13nr5m

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To Capitalists,

GOLD QUARTZ MINE, SITUATED IN CALAVERAS County, with steam mill fitted up with Amalgamating pans, etc., FOR SALE. The mine has three main veins, and more than \$84,000 have been spent in opening them and completing the mill. Good wagon roads all the way. Apply to BELLOC FRERES, Bankers, 535 Clay street, San Francisco. 23v13-6m

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Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. Thomas Starr is Agent for the MINING AND SCIENTIFIC PRESS in Nevada, and will canvass the principal cities, towns and districts of that State. August 25, 1866.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. San Francisco, Jan 11th, 1866.

Mr. L. W. Felton, is an authorized agent for this paper at Portland, Oregon. Dec. 1, 1866.

San Francisco:

Saturday Morning, Dec. 29, 1866.

NOTICES TO CORRESPONDENTS.

"MOLINO."—SACRAMENTO GRAY STONES, for bruising wheat and oats, especially the latter, are usually formed of a silicious breccia, or conglomerate, which under the hammer dresses somewhat rougher than horn-stone. They are not so hard as the latter, but do very well for the coarse work alluded to. Such stones in Europe are usually obtained from the carboniferous series of beds known as "Millstone Grit," a term applied in consequence of their supplying that continent with the greater part of the coarse millstones consumed. These beds usually lie immediately underneath the workable coal in many parts of England; and generally, indeed, we might possibly with truth assert that such is invariably the case in Wales, from which circumstance it has been denominated "Farewell Rock" by the local miners; as practical tests have established the fact that in the Welch coal field it would be fruitless to search for coal below these millstone-grit beds. In other parts of the world, and even in England, workable coal has been found in them; and in some instances even in the sub-lying carboniferous limestone. For the purposes you require we have seen a very useful rock, a specimen of which we have in our cabinet, which, it is said, came from the Southern coast, though from what particular locality we could not learn. Perhaps some of our readers will favor us with an account of it. Its utility for the purpose under notice was known to the Spanish residents prior to the American occupation. The few specimens which have heretofore been brought to San Francisco, it is stated, have been obtained from boulders lying on the shore of the ocean. It is evidently of volcanic origin, and doubtless exists *in situ* in immense masses.

"N. P."—ZIRCONIUM.—Since the discovery of aluminium, which was brought about by the aid of the powerful reducer, sodium, chemists have been untrifling in their endeavors to obtain the other metals suspected to exist in the bases, which had until then resisted every effort to decompose them. It was thus magnesium was found soon after aluminium; and now M. Troost, in a paper addressed to the Academy of Sciences, has described his researches in zirconium, or the base of zirconia, which is extracted from the precious stone called hyacinth zircon, or "jargon," remarkable for its delicate tints, varying between white and red. M. Troost wished to determine whether zirconium, already found in an amorphous state by Berzelius, was a metal similar to magnesium or aluminium, or a metalloid not unlike carbon, boron, or silicon. His first experiments were directed towards obtaining zirconium in a crystallized state, and in this he succeeded by heating one part of double fluoride of zirconium and potassium with one part and a half of aluminium in a crucible made of the charcoal which accumulates in the gas retorts, and at a temperature equal to that required for melting iron. When the crucible has cooled, the surface of the button of aluminium which has been formed is covered with thin crystallized laminae, pressed together like the leaves of a book. The aluminium may be removed by dissolving it in hydrochloric acid diluted with twice its volume of water; by this means the laminae of zirconium may be removed, but there still remains some, consisting of an alloy of aluminium and zirconium. The pure metal, in the crystallized state, as described, is a very hard substance, of great brilliancy, resembling antimony in color, luster and brittleness. The laminae are easy to cleave in two directions inclined to each other at about 93°, their planes being inclined to the third or ground plane at an angle of about 103 deg. The density of crystallized zirconium is 4.15. Chlorine combines with it at a dull red heat; the sulphuric and nitric acids do not attack it at the ordinary temperature. Its real solvent is hydrofluoric acid. Amorphous zirconium, as obtained by Berzelius, is a powder scarcely distinguishable from powdered charcoal; it is a bad conductor of electricity.

THE EUREKA MINE—SULPHURET WORKS.

There is probably no mine on the Pacific coast which has been better managed, during the past two years, than the well known Eureka mine of Grass Valley, in this State. Neither is there any other mine on which so much practical and scientific talent has been brought to bear. The Messrs. Watt, under whose superintendence this mine has been placed, have had large experience, to which is added sound practical judgment, guided by which they have never been known to make a mistake in the management of a mine. As the result of their management in this particular instance, aided largely, it is true, by fortune in finding good ore, they have raised the Eureka from a second or third class mine to that of the first—if, indeed, it does not stand to-day the first, for its extent on the entire Pacific coast. The monthly yield of the mine, for the past year or so, has exceeded \$65,000; out of which monthly dividends have been made, ranging from \$30,000 to \$40,000.

From the very start of the new company, the Messrs. Watt have always concentrated and saved their sulphurets, which have been sold from time to time, as the most favorable opportunities presented. During this time the managers have been unceasing in their inquiries and investigations, as to the best mode of both saving and disposing of this important part of the product of the mine. With a knowledge of the care and judgment which has guided them in their determination upon a permanent plan of operation in this particular, it cannot fail to be of value to our readers to learn the decision to which they have arrived.

For Concentration, after trying several plans of California and other inventions, they have finally decided upon that of Rittinger's Funnel or Pointed Boxes, which, under various modifications, have been in use for many years in Europe, both on the continent and in England. The device is exceedingly simple, self-acting, and requires no power. We shall endeavor to give a full description of it next week; the space required for the same being more than we can spare in the present issue.

The Disposition of the Sulphurets, determined on, is that of working them upon the ground by the chlorination process. This department has been placed under the special charge of Mr. G. F. Deetken, a gentleman who has had large experience in this branch of metallurgy, and who is now engaged in putting up the necessary furnaces, fixtures, etc. Various modifications will be introduced into these works, such as have been suggested by the most careful inquiry, and an extended practical experience. Perhaps the most important of these modifications is the construction of the

Furnaces for Roasting the Sulphurets.—These furnaces will be two in number, all the sulphurets being made to pass through both furnaces. It is well known to persons acquainted with the desulphurization of ores, that it requires two or three times the amount of time and heat to throw off the last 20 per cent. of sulphur, that is required for removing the previous 80 per cent. Hence it must be quite apparent that much economy can be found in the employment of separate furnaces for the first and last portion of the operation.

Acting upon this idea, Mr. Deetken will employ, for his first operation, Parke's double, revolving reverberatory furnace. This furnace will consist of two revolving hearths, one above the other, so arranged that the flames, after passing over the lower hearth, will ascend and pass, in reverse, over the upper hearth, from whence they will escape through a chimney placed directly over the fire-grate. A hollow cast-iron shaft passes perpendicularly through both of these hearths, to which arms are attached, with stirrers, communicating with the contents of each hearth, and by which, as the hearths revolve, the sulphurets will be thoroughly stirred. The heat will cause a current of cool air to pass constantly through this shaft, which essentially aids in preserving it from the corroding action of the sulphur. The arms and stirrers can be readily replaced, as often as destroyed, and at a trifling cost.

Each of these hearths is capable of receiving

a charge of four tons of sulphurets, which, with the consumption of two cords of wood, will be relieved of 80 per cent. of its sulphur in about eight hours—one ton per hour—with no cost for stirring. The temperature required for this furnace is merely a dull red heat.

From hence the sulphurets are removed to an ordinary reverberatory hearth, where the charge is limited to one ton to each furnace, and where a very light heat must be maintained, approaching gradually to near the point of fusion. The remaining 20 per cent. of sulphur is here driven off, when the mass is ready for the chlorination treatment, which we shall hereafter describe.

In the process of the investigations which have led the Messrs. Watt to the adoption of the chlorination process, several experiments have been made to test the comparative value of pans for working sulphurets; both raw and roasted, the detail of which we must defer to another issue.

CONTRIBUTED FOR OUR CABINET.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

116.—MR. T. F. DINGLEY sends us a specimen of quartz containing auriferous sulphurets, from the Providence mine, near Nevada City, with a memorandum of assay, showing \$119.26 gold and \$32.77 silver, to the ton. Working tests made in this city give \$48.20.

117 is a specimen from the same ledge, containing auriferous pyrites, with galena.

118.—MR. KUSTEL has laid upon our table a very fine specimen of nickel and cobalt ore, from the Peacock mine, near Cisco, Placer county. To the uneducated observer, the ore would be taken for a very good quality of yellow sulphurets of copper, a large amount of which is present with the nickel and cobalt.

119.—PROF. ROWLANDSON contributes a specimen of "Millstone Grit," a silicious breccia or conglomerate of volcanic origin. A mineral similar to this, is often found under the coal measures in Wales, Eng., where it is denominated by the miners, "Farewell Rock," from the circumstance that whenever this rock is encountered in the search for coal, the workmen always bid farewell to any further hope of finding that mineral. This is the same mineral referred to in our "Notices to Correspondents" under the head of "Molino."

STEAM FOR CHINA AND JAPAN.—One of the most important events in the history of this city is to be inaugurated on Tuesday next, in the sailing of the first steamer of the San Francisco and China Mail Steamship Line. The Pacific Mail Steamship Company have been quietly and unostentatiously making preparations for this event for some months, and on Tuesday next, the staunch steamship Colorado will leave this city on its first trip for China and Japan, to be followed thereafter by monthly steamers. The magnitude of the enterprise and its importance to the future prosperity of this city, can scarcely be estimated. Our citizens will duly notice the event by a grand banquet at the Occidental on Monday evening. Several prominent merchants and mercantile agents, from this city and New York, will go out on this trip to establish or re-inaugurate business arrangements in China and Japan, such as may be required for this new phase of our Oriental mercantile intercourse. The establishment of this new and rapid means of communication with the Orient, and the completion of the Pacific Railroad, will eventually establish San Francisco as the commercial center of the Western World. The trade and commerce which it will at once attract to this city, will be important. Already, with nothing but sailing vessels in the Pacific, and our round-about Isthmus transit, three-fourths of all the tea trade with Japan, pass through San Francisco. That of China will now be added, with its silks and other wares. The millions of Eastern Asia, that great central hive of humanity, are now to be brought into steam communication with Europe and America. The effect cannot be doubted. Steam will do for China what it has done for every other people everywhere it has been introduced. It is the great civilizer of the world. It will soon build up a commerce, the wants of which even a weekly line will be totally inadequate to satisfy. The inauguration of such an enterprise may well be made a matter of gratulation and of joy.

[Written for the Mining and Scientific Press.]

Reply to Professor Wurtz.

EDITORS PRESS:—So much has been already written about sodium amalgam, that it requires some assurance to present the same subject again to your readers; but Professor Wurtz's letter, which appeared in your issue of December 15th, compels me to ask of you some space, and I will try to be as short as possible.

If I am not mistaken, Mr. Wurtz takes pains to impress the idea that his invention of the application of sodium quicksilver refers exclusively to metallic substances. He says " * * * that the use of sodium amalgam is beneficial in gold amalgamation (which can only be understood as a concession of all I claim—namely, that sodium exalts the adhesion between quicksilver and the precious metals. * * *) And again: "The above experiment will serve to exemplify the mode in which the exalted adhesion and more intimate contact produced by the eodium enances and quickens voltaic and chemical reactions between metallic substances."

This property of sodium amalgam I never disputed; but many persons, who had their own reason for it, tried to make people believe that the sodium is also a most beneficial agent on silver sulphurets. Although the decomposing action of sodium on most of the silver ores is remarkably vigorous, different considerations, which I do not think it necessary to reiterate, disavow the use of it on silver ores. Mr. Wurtz admits this himself by writing: "I fear it may be necessary for me to add here, distinctly, that these calculations are intended only as illustrative; else I might be accused of justifying the direct use of sodium as a reducing agent in silver metallurgy, the time for which has not come yet."

Mr. Wurtz, however, seems to believe that a very small quantity of sodium is beneficial on silver ores by its "voltaic action." This benefit is what I deny, and that denial is based upon experiments. When I made the experiment with an "excess of sodium on rich silver ore," it was not through want of knowledge of the small quantity of sodium which should be used, but because I found that a small quantity was of no avail, that I tried an excess to determine its behavior. The quicksilver of the said experiment was not "loaded" with base metals; its amalgamating power was not destroyed while sodium was present; but the adhering sulphurets, combined with the apathetic condition which the quicksilver assumes after the sodium has been used up, prevented the amalgamation.

Mr. Wurtz recommends to me and other practical metallurgists, to bray in a mortar precipitated chloride of silver, iron filings, and eodium quicksilver. To show even a much more striking result, there is no necessity of resorting to a silver combination which is not found in nature in the same aggregate condition. If sulphurets of silver (silver glance), cut in small fragments, be brought into contact with sodium quicksilver, all of it will disappear instantly; there is no need of iron filings. The natural chloride of silver, with or without filings, does not exhibit a like behavior, but a great part of it is taken up by the quicksilver.

There is in these phenomena with silver glance and the natural chloride of silver, no contradiction in relation to the required equivalent quantity of sodium; for a close observation will show that the particles are only "transiently enfilmed"—exactly like the iron—and if such amalgam be retorted and melted, sulphide of silver would result.

There is also no contradiction in my saying that eodium amalgam has a beneficial influence on gold quartz; that sodium quicksilver may collect silver amalgam particles out of a slimy matter, and that the use of sodium amalgam causes a greater loss in quicksilver. All depends on the circumstances under which the operation has been performed, which I never omitted to mention when I wrote about greater loss of quicksilver.

Mr. Wurtz says in his letter, that I "still adhere to, still strongly insist on," preconceived ideas; but I vainly look for a reasonable refutation of what I said. The "*reductio ad absurdum*"—whatever it really means—shows nothing. Firstly, it would be necessary to show where in the world the chloride of silver, by itself, is treated by metallurgists, or rather, where can it be found pure with gangue in sufficient quantities for treatment? Secondly, there is no necessity to have the expense of sodium approach the sum of \$97.75 per pound, to make it more expensive than other treatments. Thirdly, there would be used up four or five times more sodium than is required for the decomposition of the chloride of silver contained in the ore (for reasons which I have already given). Besides this, the value of the bullion will be depreciated by base metals.

G. KUSTEL.

NEW PATENTS AND INVENTIONS.

Under this heading we shall mention, from week to week, as occasion may demand, New and Important Inventions, also the List of Patent Claims recently issued from the U. S. Patent Office to Inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

MEASURING FAUCET.—Seba Squire Wiles, Santa Clara, Cal.: 1 claim, 1st. This faucet composed of the barrel, A, and the feed and discharge passages, C and D, with the valve, d, operated substantially as described. 2d. In combination with the devices above claimed, 1 claim the scale, O, index, b, and piston, B, with its rod, c, all arranged to operate substantially as and for the purpose set forth.

AN IMPROVED BRICK KILN has been introduced in England, designed to economize the heat employed in burning brick. By this arrangement, first, the gaseous products of the fuel are all saved for consumption; second, the heat passing off from a burning kiln is made to pass through another kiln, just set up, thus drying the new fresh bricks, and raising them gradually to a high heat, before any fuel is placed in this kiln to complete the burning; thirdly, the heat from the cooling of the first kiln, after being burnt is economized, by causing it to pass into a kiln just lighted, to supply the fire with air for combustion. Thus it will be perceived that every particle of the fuel is perfectly economized, and even the radiating heat is pretty effectually employed, by being made to aid in the various stages of the work. All this is accomplished by constructing the kiln in such a manner as to constitute a circular tunnel, divided into twelve or more compartments, with a doorway to each.

A BOSTON ARTIST has the patent right for the United States of a new invention for outdoor photographing. The camera is called "pantoscopic." The lens, by means of mechanism, is made to move steadily around the circle, so as to take a panoramic picture instead of a view of a single point. The plate slides along at a corresponding rate.

RECENT INVENTIONS.

A NEW PROCESS FOR MAKING GAS from wood and other substances, has been devised by Mr. Ensley, a Canadian, by which it is claimed that 4,500 feet of gas can be obtained from half a cord of wood and a barrel of bones. But this is not the only saving. When these articles are consumed, according to Mr. Ensley's directions, there is little or no waste of values; but simply a transmutation into other commodities of nearly equal value, to which the gas is superadded. The wood yields not only gas, but charcoal, tar and turpentine. The bones give a residuum of ivory-black, phosphorus and ammonia; and the vegetable substances, residuums of other things. In this manner the gas becomes, as it were, a mere incidental feature, manufactured only at a minimum expense, but of an excellent kind.

SELF-FASTENING BUTTONS.—Numerous attempts have been made at various times to introduce a method of securing buttons on clothing which should supersede the process of sewing. Hitherto the object has not been effected, owing to the several drawbacks which have arisen to bar the practical application of a mechanical fastening. Now, however, the difficulty appears to have been overcome by a most simple contrivance. This invention, which has just been patented, consists in constructing buttons with shafts formed of a strip of metal or wire, upon the principle of the well-known paper fastener, and provided with a washer made with an aperture just large enough to allow of the two plates of the shank when in contact passing through it. The plates or wires are of such metal as allows of their being bent without breaking.

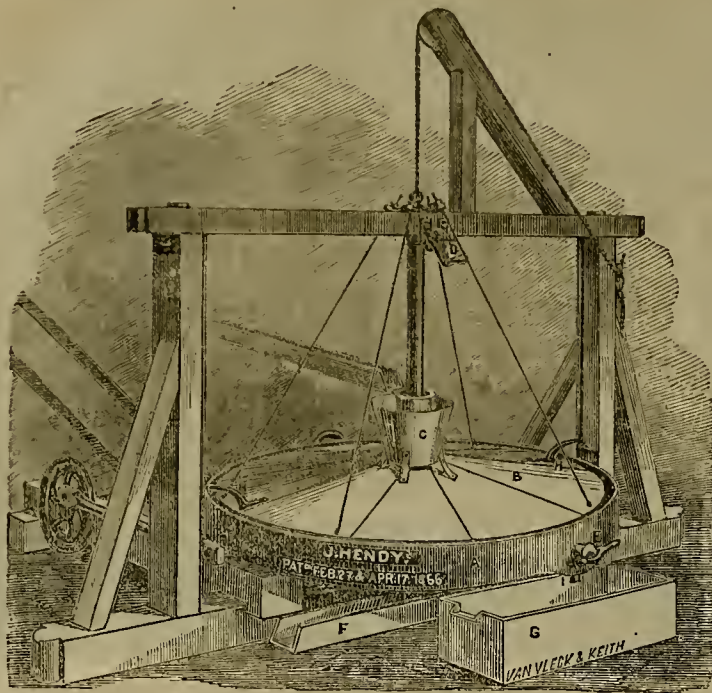
AN IMPROVED PLOW.—Messrs. Baxter & Blake are having cast at the Globo Foundry, of Stockton, an improvement on the Boston Clipper plow, concerning which the Independent of that city says: "The main standard is somewhat higher than the original Clipper, and is likewise broader at the top. Mr. Baxter claims the improvement in the 'standard,' while Mr. Blake is entitled to the credit of making valuable improvements in the mold-boards, shares and landsides. The points and mold-boards are cast from a metal known as 'white amalgam,' which is as hard as glass, and, at the same time, is difficult to break. Mr. Yolland, Mr. Castle, and other farmers, have tested the plows, and find them to be all that is claimed by the inventors. In either sandy or adobe land they work to a charm, and from the peculiar hardness of the metal composing the mold-boards and points, they possess the merit of outwearing any other plow in use."

PATENTS can be obtained for citizens on this Coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. In one half the time it takes to operate through Eastern agents. From our familiarity with the subject of most California inventions, and the benefit arising from personal explanations, we are prepared to present claims with greater accuracy than could reasonably be expected of distant agents. Advice and Circulars FREE.

DEWEY & CO.,

Patent Agents, 505 Clay street, San Francisco.

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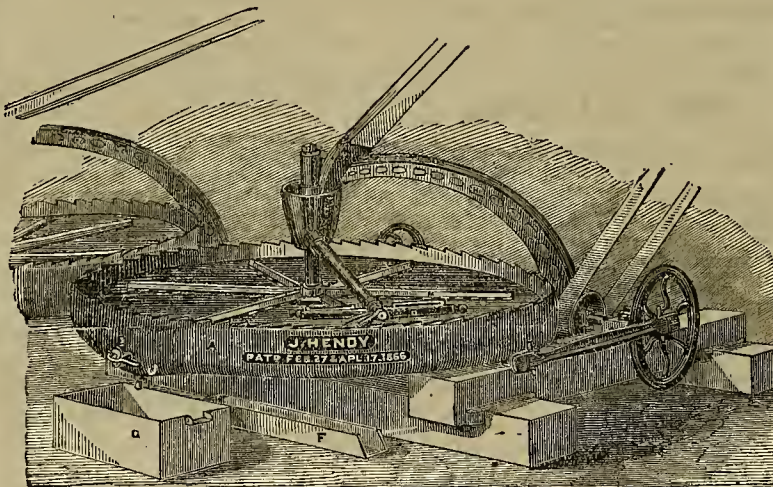


Hendy's Improved Patent Self-Discharging Sulphurets PRATER CONCENTRATOR Is Receiving Universal Favor.

Reference is made to the following Mills which have them now in use:

LOUISIANA MILL, Bear Valley, Mariposa County. SPRING HILL MILL, Amador, Amador County.
LOUISIANA MILL, near Coulterville, Mariposa County. GOLDEN GATE MILL, Volcano, Amador County.
OPHIR MILL, near Newcastle, Placer County. RAWHIDE MILL, Jamestown, Tuolumne County.
C. H. SCHNABEL'S MILL, Doty Flat, Placer County. TRIUNFO G. & S. M. CO., Lower California, Mexico.
JERSEY BLUE, near Folsom, Cal.

And in use in many other parts of this State; also in Idaho, Arizona, Colorado and Mexico.



Hendy's Latest Improved Concentrator.

By this improvement the conical feeding distributor has been entirely done away with. The feed in this machine is made to enter the conical hopper; from thence it passes through the hollow arm, leading to the T attachment, marked B, which is made to sweep slowly around the circumference of the pan, by means of the ratchet teeth upon the upper edge of the same, into which two pawls are seen to work. This motion is obtained from the vibrating action of the pan, as in common use. Upon the under side of the T attachment to the arm, are small openings or perforations, through which the pulp is dropped from the feeder into the pan. The constant revolution of this arm secures a more uniform feed than can be obtained from the conical feeder. A set of stirrers, with small projectors or teeth is shown, which is also kept in revolution with the feeding arm, the design of which is to prevent the sand from packing near the center, where the motion is diminishing. The discharge orifice and box for receiving the sulphurets will be readily distinguished at box C. These pans may be so connected, as in the end, that two can be driven by one shaft and pulleys. These machines have been thoroughly tested, and pronounced a perfect success.

Certificates:

JOSHUA HENDY, Esq.—Dear Sir: I have been using three of your Improved Concentrators for the past four months, at the Spring Hill Mill, and they give perfect satisfaction.
Yours truly,
WM. H. HOOPER,
Two of these Improved Machines have been ordered by Mr. Hooper, for the Gold Hill Mill, at Grass Valley.

JAMESTOWN, TUOLUMNE COUNTY, CAL., July 18th, 1866.
JOSHUA HENDY, Esq., San Francisco:—MY DEAR SIR: It gives me pleasure to inform you that the four "Improved Self-Discharging Prater Concentrators," which I purchased from you, have now been in operation in the Rawhide Mining Company's Mill for more than two months, and have more than realized my expectations.

I am free to say it is the best Machine for saving Quicksilver, Amalgam, and Sulphurets that I have ever used or seen used for that purpose. I shall take pleasure in showing any one interested the Machine in operation, who will call at the mill. I shall need four more as soon as the balance of my mill is completed. Yours truly,
R. P. JOHNSON, Superintendent Rawhide Mill Company.

A Circular giving further particulars will be mailed to any part of the United States free of expense. Address,
JOSHUA HENDY,

402 Montgomery street, San Francisco, Room 3, Fourth Floor.

Air Pump for Sale.—One of Tate's Double-Action Air Pumps, in prime order, can be had at a bargain, by applying soon at this office, or to Joux Roach, mathematical Instrument maker, 522 Montgomery street. 21v13-9p

TOWNE & BACON, Print—

Stock Certificates,
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And every kind of Job Work that may be desired.

A NEW ARTICLE OF TACS FOR GROCERS' USE,
16v12 536 Clay street, opposite Leitendort.

OIL! OIL!! OIL!!!

—OUR—
MACHINERY OIL

IS SUPERIOR TO ANY IN USE, AND IS WARRANTED NOT TO OUM.

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511 1-2 and 513 Front street, San Francisco

IMPORTERS OF

COAL OILS AND LAMP STOCK.

21v12-3m9p

WM. HAGEMANN,

Sole agent for

Schaffer & Budenberg's Steam Gauges,

And all articles used by Engineers. Cheltenham Fire Clay Works, St. Louis;

PATENT METALLIC BURIAL CASKETS;

Turnbull & Gummessell's Hearses.

103 California street, corner of Davis street.

18v13-3m16p SAN FRANCISCO.

Foundry for Sale.

A One-half Interest in the

UNION IRON WORKS,
SACRAMENTO,

Owned by William B. Williams, is offered for sale on the most favorable terms.

A Good Bargain

May be had, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 85 feet front by 165 feet in depth, in a good location for this business, on Front street, between N and O streets.

Inquire at the office of the Foundry, or address

WILLIAM B. WILLIAMS,
Sacramento, Cal.

MOSHEIMER'S

Metallurgic Works

And Practical School for Assaying and Metallurgy.

THE UNDERSIGNED HAS REOPENED METALLURGIC Works, and is prepared to reduce any kind of Ores, by Smelting, Amalgamating, or other processes, that the nature of the ore may require.

Practical Instructions given in Assaying, all branches of Metallurgy and Technology.

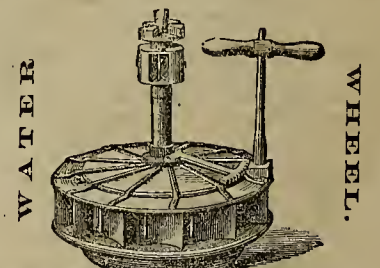
Furnishes Plans and Estimates for the erection of Quartz Mills, Smelting and other Reduction Works.

Having carefully studied the science of Concentrating Ores, I can offer better concentrating machinery than any in use in California, and especially such as will save the due or floating gold and sulphurets.

CONSULTATION OFFICE:

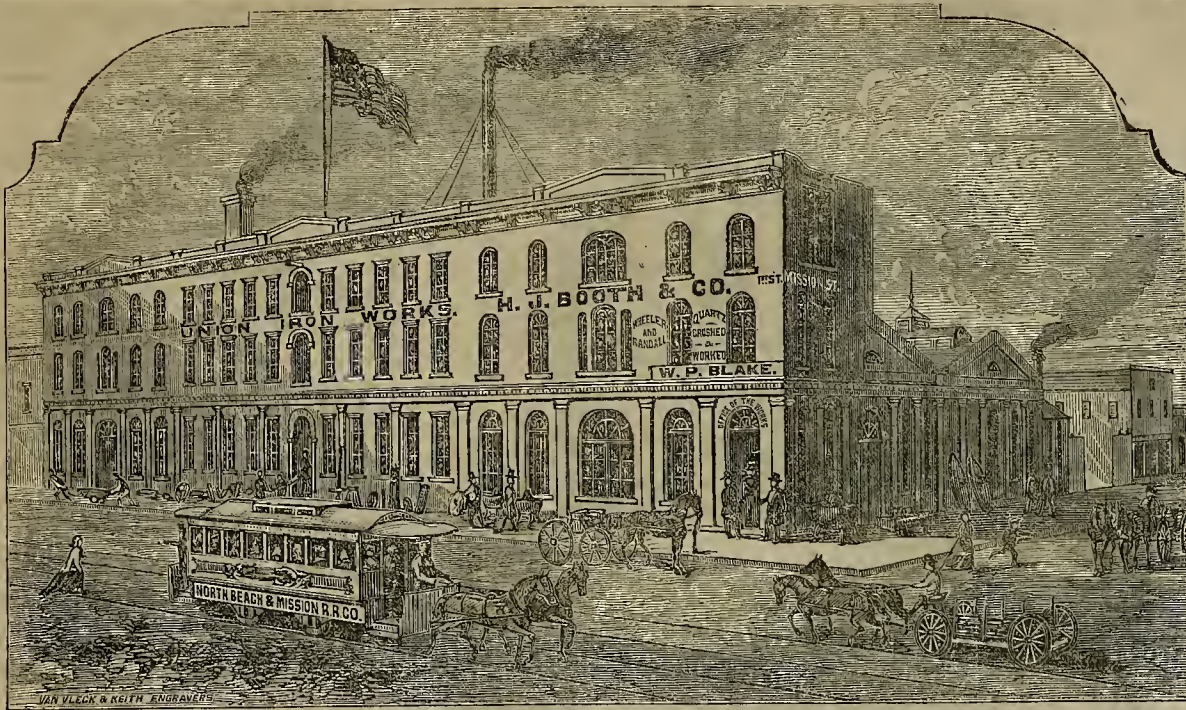
423 Washington street, San Francisco.

J. MOSHEIMER,
26v13-3m Engineer and Metallurgist.

LEFFEL'S
American Double Turbine

THESE WHEELS, UNEQUALLED AND UNRIVALED IN the United States or the world, have been fully tested on this coast, more than forty being in use at the date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc., etc.
CALIFORNIA EXHIBITION.—E. Stockton, Folsom; O. Simmons, Oakland, (Mill at Clear Lake); Morgan Coville, Lexington, Santa Clara County; J. Y. McMillan, Lexington Santa Clara County. Send for Circular, to

KNAFF & GRANT,
Agents for California,
26v13-1yq 310 Washington street, San Francisco



Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Tug, Rags, Screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

ENGINES.—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

BOILERS.—Locomotive, Flat, Tubular, Upright, Cylindrical and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

PUMPS.—The Excelsior double-acting Force Pumps are manufactured by us. These very superior pumps are warranted the best, and are fast replacing all other Force Pumps.

AMALGAMATING MACHINERY.—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Feldin's pan, Yeatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Ocaring, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

OIL BORING TOOLS AND MACHINERY.—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

U. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT.
24-12 **H. J. BOOTH & CO.**

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Golden State Iron Works,
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MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing.

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Tyler's Improved Water Wheel.

Owing the greatest power, at lower cost, than any wheel in use. There are over 1,500 running, giving universal satisfaction.

KNOX'S AMALGAMATORS,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either Gold or Silver Ores.
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past eight years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver.
13v10qy-1f

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Steam Engines, Boilers,
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MINING MACHINERY, WROUGHT IRON SHUTTER
WORK, AND BLACKSMITHING IN GENERAL.
Corner North-First and E streets,
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UNION IRON WORKS, Sacramento.

WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Dunbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old Cylinders, manufactured to order.

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No. 229 Fremont street, between Howard and Folsom,
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Has always on hand a general assortment of PICKS for Quartz and Surface Mining.
Particular attention is called to his RAISED EYE QUARTZ PICK, which is especially adapted to Quartz Mining, and guaranteed to give good satisfaction.
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STEAM ENGINE, FLOUR AND SAW MILL
And Quartz Machinery, Printing Presses,
—AND—
MACHINERY OF EVERY DESCRIPTION MADE AND
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Special attention paid to Repairing.—23 qy-3

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FILES RECUT AND WARRANTED AS GOOD AS NEW,
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We also manufacture Reapers and Mower Sections.
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THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality.
Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

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Foundry and Machine Shop,

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KEEP, BLAKE & CO.,

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Quartz, Saw and Grist Mill Irons, Steam
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House Fronts, Iron Fencing, Balcony Railings, etc.,
at San Francisco prices. Orders solicited
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FORGING AND IRON WORK.

THE PACIFIC FORGE COMPANY HAVE JUST ERECTED, in this city, on Fourteenth street, near the machine shop of the San Jose Railroad, a large establishment for the purpose of forging and working in wrought iron. Our hammer is the largest upon this coast, and we are prepared to manufacture, at short notice, all kinds of heavy forgings, car axles, shafts, steamboat cranks, piston-rods, wagon axles, and other similar work. This is the first general shop of the kind erected in this State, and we solicit the patronage of the public. All orders executed at reasonable rates, and with promptness and satisfaction.
19v12-3m

F. N. BACON. LINAS STEWART.
BACON & STEWART,
PRACTICAL MACHINISTS,
No. 51 Beale street, San Francisco.

All kinds of Machinery made and Repaired.
Particular attention paid to PRINTING PRESS work.
All jobs entrusted to us will be attended to with promptness and on reasonable terms. The patronage of Printers is respectfully solicited.
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J. O. HANSCOM & CO., HANS COM & CO.,

11. SMITH. 17 PENDERGAST.
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Southeast corner Fremont and Telama streets,
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Practical Machinists and Iron Founders,
MANUFACTURE
STEAM ENGINES,
QUARTZ MILL MACHINERY OF ALL KINDS,
SAW MILLS, FLOUR MILLS.
Dunbar's Improved Self-Adjusting
PISTON PACKING,

Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

HANSCOM'S CRUSHER.
The best of the kind now in use in this State or anywhere else
Wheeler & Randall's New Grinder and
Amalgamator,
Which only needs examination to be appreciated.

Tyler's Improved Water Wheel,
Giving greater power, at lower cost, than any wheel in use. Send for one of our circulars, giving full tables.
All wheels warranted to give the power as set forth, or the money will be refunded.

Sole makers for this coast of the "Pendergast
White Iron Stamp Shoes and Dies.
None genuine unless obtained from us. Every one warranted.
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.
19v12

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MANUFACTURERS OF

STEAM ENGINES.

Quartz, Flour and Saw Mills,
Moore's Grinder and Amalgamator, Brodie's
Improved Crusher, Mining Pumps,
Amalgamators, and all kinds
of Machinery.

Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco.
3-qy

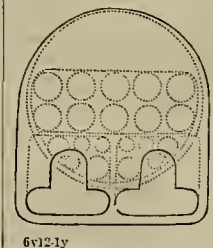
NEPTUNE IRON WORKS,

Corner of Mission and Fremont Streets,
SAN FRANCISCO.

MAKING,
Locomotive,
And all kinds of
HIGH PRESSURE
Steam Boilers
MADE.

All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.

All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.
Old Boilers Repaired
D. CAMERON.



6v12-ly

A NEW explosive mixture called "Poudre Fontaine," used in the torpedoes which were tried against the hull of the Vauban, has been employed in blowing up the old quays of one of the basins at Toulon, now in process of extension. A mine charged with five kilogrammes of powder exploded with such effect that a charge of one hundred kilogrammes in the ordinary gunpowder would have caused less destruction. The charge was purposely a small one, and the engineers congratulated themselves on having commenced so cautiously. A singular result of the explosion was the killing a quantity of fish. The workmen picked up seventy or eighty pounds weight, which floated on the surface of the water. The same phenomenon had been remarked from the action of the torpedoes.

SAMPLES of thirty-four varieties of Batavia rice seed, ten of which are for dry fields, have been received by Mr. J. Q. A. Warren, who will send samples to cultivators without charge.

RATS often do much damage by gnawing leather belting. This can be prevented by rubbing the belting with castor oil.

WE ARE NOW OFFERING OUR IMMENSE STOCK —OF— Fine Custom Made Clothing

Gents' Furnishing Goods

AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of
ALL THE LATEST STYLES
BOTH OF MATERIAL AND FINISH.

A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.

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Cor. of Washington and Sansome streets.

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No. 125 First street, opposite Muma,
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ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Belts and Gongs of superior tone. All kinds of Hooks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.
PRICES MODERATE.—23
V. KINGWELL. [19v13-1y] J. H. WEED.

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Foundry and Machine Works,

N. E. Cor. Fremont and Mission streets,
Manufacturers of
Marine and Stationary Engines
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—
Wine, Cider, Cotton and Tobacco Presses
of the latest Improved Patterns.

STEAM ENGINES AND BOILERS,

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.
Dunbar's Improved Self-Adjusting Piston-Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

MACHINERY, OF ALL DESCRIPTIONS,
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.
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JAMES MACKEN, COPPERSMITH,

No. 226 Fremont st., bet. Howard & Folsom
All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
13v11

JOHN LOCHHEAD'S Steam Engine Works,

Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT
to order—Marine, Stationary, or Locomotive.

HOISTING AND PUMPING ENGINES,
PORTABLE ENGINES, OF ALL SIZES,
DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the

Superior Workmanship
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular.
26v12-3m

GROUND has been selected in London, near Westminster Abbey, for the erection of an architectural museum. The society which has it in charge was formed in 1851, and already has a good collection. Prizes for meritorious specimens of stone and wood-carving, metal work, glass and decorative painting, modeling, drawing, etc., are annually offered, with the view to encourage and individualize the art-workmen of the day. As a means of extending the usefulness of the museum, honorary local secretaries are to be appointed in the more important towns of the kingdom.

LEAD in great abundance has been discovered in the valley of Green river, in Kentucky. A mine will be opened at once. Similar discoveries are reported in Owen and Shelby counties.

BELLANBI COAL!

A SUPERIOR ARTICLE OF
SMITH'S COAL,
FOR SALE IN QUANTITIES TO SUIT,
At Greatly Reduced Rates.
Sacked to order for Shipment to the Country.

Apply to
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1513 1/2 CALIFORNIA STREET, San Francisco.

Bell's Assay Office.

THE UNDERSIGNED, HAVING FORMED A COMPANY, monthly this day, would inform the former patrons and the public generally, that they will continue the ASSAY BUSINESS in all of its branches, at the old stand,

No. 512 California street,
One door west of Montgomery, San Francisco, with the same employees, under the name of Rogers & Brown.
MR. EDWARD WOLLEB, for the last seven years Assayer for Mr. Bell, will have charge of the Assay Department.
The Melting Department will be under the charge of MR. HENRY J. FISHER, for ten years in the United States Mint in this city and Philadelphia, and for the past seven years with Mr. Bell.
We would inform Photographers that we are prepared to work their chloride of silver and ashes from their paper clippings.
We have in connection with our Assay business a Mill, and are prepared to
WORK GOLD AND SILVER ORES,
In quantities from 25 to 500 pounds; also, Assayers' Sweepers.
GEORGE E. ROGERS,
H. W. BROWN,
October 13, 1886. 19v13 q11pr

QUINCY HALL

CLOTHING EMPORIUM!

515, 517 and 519 Washington street,
(Near Montgomery),
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For a Dress Suit,
A Business Suit, or
A Working Suit,
GO TO QUINCY HALL!

For Shirts, Collars, Drawers, Undershirts, Socks,
Ties, Gloves, or any other FURNISHING GOODS,
GO TO QUINCY HALL!

For Hats, Caps, Trunks, Valises and Carpet Bags,
JUST GO TO QUINCY HALL!

If you want a SUIT MADE TO ORDER, of Foreign or Domestic Cloth,
ALWAYS GO TO QUINCY HALL!

IT IS THE LARGEST AND CHEAPEST CLOTHING HOUSE IN SAN FRANCISCO.

All Goods Warranted as Represented

QUINCY HALL,

Nos. 515, 517 and 519 Washington street,
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HAYWARD, COLEMAN & CO.,

IMPORTERS AND REFINERS

Illuminating, Lubricating, PAINT OILS!

CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR,
TANNERS', NEATFOOT, ROILED AND RAW
LINSEED, CASTOR AND CHINA NUT

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.
A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.
Lamps and Lamp Stock!
An elegant and complete assortment on hand.
4v13-3m19 414 Front street, San Francisco.



THE PACIFIC IRON WORKS,

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Green Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Vanney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.

DR. O. DUNNING,

Respectfully informs the public that he treats ALL DISEASES the human system is afflicted with, and can be found at his office,
Rooms Nos. 13 and 14 Government House
Corner Washington and Sansome streets,
19v13-6m SAN FRANCISCO, CAL.

NATIONAL

Insurance Company!

OF SAN FRANCISCO.

Office, No. 408 Montgomery street,
(Near California).

MARINE INSURANCE—Upon Hulls, Cargoes, Treasure, Commissions, Profits, and other subjects of Marine Insurance, to and from all Ports in the world, including Inland Risks.
FIRE INSURANCE—Upon Buildings, Merchandise, Furniture, Rents, Vessels in Port and their Cargoes, and other Insurable Property.

Capital (Paid up) - - - \$1,000,000.

Losses promptly adjusted and paid in United States Gold Coin.

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W. W. WIGGINS, Secretary. A. NOYES, Marine Officer.

EXECUTIVE COMMITTEE:
Albert Diblee, Chairman. Joseph A. Donahue,
R. G. Sneath, John G. Bray, 22v13-4m
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Pacific Law and Collection Office

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Agencies at every City and Town on the Pacific Coast. Collections guaranteed with or without suit in all the cities and counties of the Pacific and Atlantic Coasts.

Legal advice will be given free of charge until after 1st January, 1887. Postage on letters asking advice must be paid both ways. 8v13-3m

REMINGTON'S ARMORY.

Agency, 310 Washington St., San Francisco.
PRICES REDUCED!



These arms have been preferred by the United States Government, and stand unequalled by any in the world. Revolvers, Army, Navy, Belt and Pocket, Double and Single Action; Regulators, and vest-pocket Pistols, with copper ammunition; Police Revolvers, a new model, navy size ball, 4 1/2 to 6 inch barrel; Rifle Guns—an entirely new Game—on entirely new principle—equal to a Rifle, and a most perfect Game. All the new models for sale very low. 12v13-1r

ALBERT E. CRANE.

ROWLAND, WALKER & CO.,

GROCCERS,

Nos. 516 and 518 Washington street,

Are offering a complete assortment of GROCERIES at the LOWEST RATES. Quality guaranteed.

Goods delivered at any point within the city limits. 22v13-1y1



RADICAL CURE

—OF—

RUPTURE!

Treatment of all Deformities of the Body, by DR. A. FOLLEAU, 424 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU

Has his studies and manufactures in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself. 8v13-1y1p

Quartz Mill Construction and Superintendence.

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of red boulders. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address F. M. SHAW, San Francisco, Mining and Scientific Press. 14v13-1m

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Mutual Life Insurance Co.

The Largest Life Insurance Company in the World.

ASSETS.....\$12,000,000.

THE CONNECTICUT MUTUAL

IS NOW THE LARGEST AND MOST PROMINENT LIFE Insurance Company in the world, and it has

The Largest Number of Members,
The Largest Amount Insured,
The Largest Surplus,
The Largest Business,
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And as it obtains the LARGEST average rate of interest on its investments, and has had, through its whole history, the SMALLEST average expenses, it therefore affords insurance at LESS COST than any other Company.

The surplus premium (dividend) returned to Policy Holders during the current year is SIXTY PER CENT. of the premiums paid during the year ending 31st of January, 1887.

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Whole Life Policies, by TEN annual premiums.

Endowment Policies, by a continued annual premium.

Endowment Policies, by a limited annual premium, for FIVE, TEN, FIFTEEN or TWENTY years.

Endowment Policies, made payable at any age stipulated.

ALL POLICIES issued by this Company are either non-forfeitable by their terms, or may be converted into those which are so, at the option of the insured.

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\$50 will buy Policy for \$10,000, with weekly compensation of \$50.

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Policies will also be issued for any other amounts within the limits before stated, for periods of one to six months, at rates in tenths of the Annual rate, as follows:

1 month, 2-10.	4 months, 5-10.
2 " 3-10.	5 " 6-10.
3 " 4-10.	6 " 7-10.

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The Company has a PAID UP CASH CAPITAL OF \$250,000. One hundred thousand dollars deposited with Wm. Barnes, Esq., Superintendent of the Insurance Department of the State of New York, and the remainder securely invested in Stocks in the hands of the Company.

INDUCEMENTS.

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1867 JANUARY 1st, 1867

Commencement of Fourteenth Volume

Mining and Scientific Press

Published Every Saturday.

The title of our journal is a truthful expression of its character.

It affords a class of progressive information to the Miners, Mechanics and Professional Men of the Pacific Coast, which cannot be derived from books, or other publications.

Each Volume comprises, in reality, a book of new intelligence and facts relating to Mining, Mechanism, Metallurgy, Science and Art, developed by our rich and peculiar resources, and identical with our own industry and history.

By the encouragement of intelligent economy in LABOR and GOLD-SAVING, we shall make the PRESS a source of INDIVIDUAL PROFIT to its patrons, as well as a public benefit to every local community in which it circulates.

The prospects of our journal are now brighter than at any former period. Our facilities for furnishing a valuable paper are constantly increasing.

Editorial Expressions:

Following are some of the many opinions generously expressed by our neighbors:

MINING AND SCIENTIFIC PRESS.—The paper whose name we have just written, ranks among the leading scientific journals of the world. On mining matters it certainly has no equal, and more than all other causes combined, it has advanced the interests of the quartz miners of the Pacific Coast. Its editors are men of thorough education and large practical experience, and its list of contributors embraces many names distinguished in the various fields of scientific exploration and mechanical invention. The MINING AND SCIENTIFIC PRESS ought to circulate universally among intelligent Californians, to whom we most cordially commend it, and its traveling agent, O. P. Truesdell, who is now canvassing this city and county, and will shortly visit other counties in the southern part of the State, in its interest. —[Stockton Daily Independent, Sept., 1866.]

"SULPHURETS," and "Our Lady Correspondent," of the MINING PRESS, have each contributed an interesting article on Mines and Mining in Amador county. Hope they will keep up the fire. One of our subscribers complains that "Sulphurets" fell into an error, in stating that the sulphurets of the middle or Jackson range are richer than those on the upper or Pine Grove. He thinks it is just the reverse. —[Amador Ledger.]

SUBSCRIBERS FOR IT.—The large, illustrated sixty-four column weekly newspaper—the San Francisco MINING AND SCIENTIFIC PRESS—should be taken by every miner, prospector, and intelligent citizen throughout Colorado, as it gives a mine of most useful information to be gained no other way, on mining matters generally. —[Rocky Mountain News.]

The publishers intend to make it the "Scientific American" of the Pacific Coast. Every miner should have a copy of it in his cabin, for it will be filled with useful information so the pick and shovel fraternity. —[Trinity Journal.]

MINING AND SCIENTIFIC PRESS.—We received a visit a few days since, from Mr. Wood, agent for the MINING AND SCIENTIFIC PRESS, who is now canvassing this county for subscribers to that valuable journal. The Press is invaluable to miners and mechanics, being the only journal of any importance on the coast entirely devoted to their interests. —[Mountain Messenger.]

The public should support the enterprise of the MINING PRESS, one of the best papers in the State, by a liberal patronage, as it is only by a system of legitimate reports that our mines can be favorably brought before men of capital below. —[Calaveras Chronicle.]

Its correspondents are men of science and learning, and hail from all parts of the coast. It is published at San Francisco, at \$5 per annum, or \$3 for six months. Address Dewey & Co., publishers of MINING PRESS, San Francisco. [Nye County News.]

It embraces one of the finest fields in the world, and seems to improve it. * * * It will be second to no scientific record now published on this continent. —[Los Angeles News.]

Prof. J. D. Whitcomb's address on Mining, is given entire. * * * We preserve the Press, and would like to have a full file. —[Napa Reporter.]

A neat and useful journal. One of the most presentable and useful in the State. —[Sunday Mercury.]

Friends pleased with our efforts in the publication of the Press can render us essential aid by furnishing correspondence and all important information which may come under their observation, and by calling the attention of their neighbors to the commendable features of the paper; the appreciation of which favors will be duly manifested by the constant improvement of our journal.

Specimen copies will be sent free to those desiring to examine the paper before subscribing. Postmasters, Express Agents and News-dealers, acting as our agents, will receive liberal commissions.

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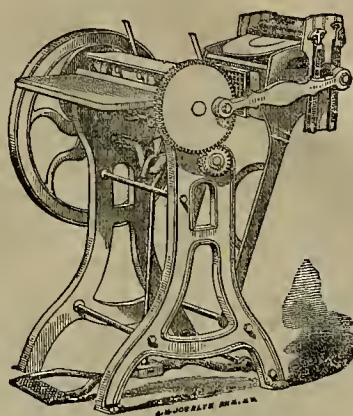
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Mining and Scientific Press



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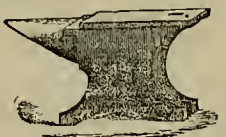
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ESTABLISHED [MAY, 1860.]

VOLUME FOURTEEN

—OF THE—

Mining and Scientific Press,
COMMENCING JANUARY, 1866.

DEWEY & CO., Publishers.

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It is designed to fix for the future the discovery and early history of the mines, to sketch their progress and present condition, to give such statistics as are attainable with regard to their production, actual and possible; in fine, to disseminate throughout the East and in Europe accurate information respecting them. To relieve the tedium of such a work, interesting incidents illustrating the early manners and customs of the pioneers, and the gradual organizing into its present existence of the first, and always to be the eminently Rocky Mountain State, will be given.

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There will also be attached a Business Department, in which a limited number of advertisements will be inserted.

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The work will be issued sometime during the month of August. Price \$2, bound in paper; in muslin, \$2.50.

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The relative grinding capacities of "The Excelsior" Grinder and Amalgamator, of the Flat Bottomed Pan, and of the Conical Pan when properly constructed, are respectively 177, 118 and 132.

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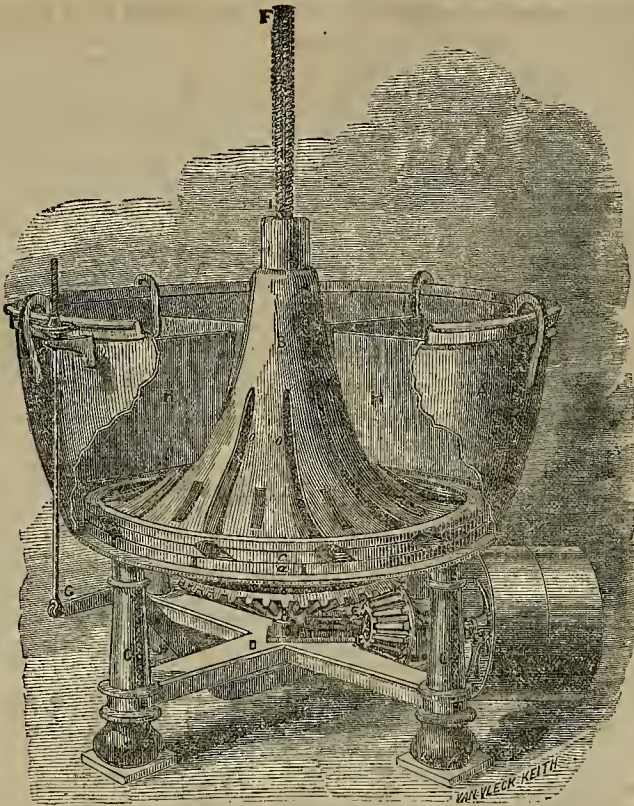
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3v13f SAN FRANCISCO.

Hunt's California Pump

Has all the advantages of any other Pump, is one third cheaper and more durable, will draft water as deep and force as high as any others, is not liable to get out of order, and is easily repaired by any one.

All these Pumps are fitted to work by hand if desired.

These Pumps have given good satisfaction to all who have used them during the last three years. Good judges have examined and pronounced them to be the cheapest and best Pumps in use.

Manufactured at Hunt's Windmill Factory, 23 Second Street and 110 Jessie Street.

Also, Tread Horse Powers, Pumping Frames for Irrigating, Saw Frames, Sweep Horse Powers and Frames, all in one frame, the horse to travel around the frame.

PRICES OF HUNT'S CALIFORNIA PUMPS.

No. 3—3-inch cylinder, 6-inch stroke.....	\$50 00
No. 4—4-inch cylinder, 6-inch stroke.....	55 00
No. 5—4-inch cylinder, 8-inch stroke.....	45 00
No. 6—5-inch cylinder, 8-inch stroke.....	60 00
No. 8—8-inch cylinder, 12-inch stroke.....	90 00

62v—A liberal discount made to the Trade.

For further particulars, send for Circular.

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21v13f 23 Second and 110 Jessie streets, San Francisco.

J. MARSHALL W. WYLLIE.

GLASGOW

IRON AND METAL IMPORTING CO.,

No. 27 Fremont street,
SAN FRANCISCO.

Reg to inform purchasers that they have just received a large stock of Glasgow and Staffordshire best refined

Bar Iron, Boiler Plate, Anvils, Cast Steel, Boiler Tubes, Gas and Water Pipes,

GAS FIXTURES, etc. They offer the same for cash, on liberal terms, at wholesale and retail. The Company have superior facilities for supplying the constant demands of the market.

Country Orders punctually attended to. 19v13-q



STANDARD SOAP COMPANY'S WASHING POWDER,

THIS POWDER IS SUPERIOR TO ALL OTHER PREPARATIONS for washing and cleansing. It is made of pure material, and contains nothing that will injure the finest fabric. Equally as good for use in hard as soft water. One pound will make three gallons of beautiful soft soap. Put up in wrappers of 1-lb each, and in wooden boxes of 10-lb bulk. Ask your grocer for a package, and test its virtue. Manufactured at 207 Commercial street, San Francisco. 15v12q

ELECTROTYPING CUTS, ENGRAVINGS, Etc.—Our Job Printing office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State.

MINERAL RESOURCES OF COLORADO.—We extract the following from an address before the Board of Trade at Chicago by Gov. Evans of Colorado, in which was urged the importance of early railroad connection between Chicago and Denver City:

Lying along the great Cordilleras or snowy range, which divide the waters of the Atlantic from those of the Pacific ocean, directly west of Denver City, extending from near the base of Long's Peak in a southerly direction for over 200 miles in Colorado, is what I believe to be the most extensive and richest mineral belt of country in the world. A tract from five to fifteen miles wide, of this vast extent of the mountains "literally gridironed over with gold, silver, copper and lead-bearing lodes, many of them known to be of great extent and unsurpassed richness. While many of them, of course, are too narrow or too poor to pay for working, I believe that enough that are extensive and rich have already been discovered to give profitable employment to a million of men. And the extensive discoveries that have been made the past year assure us of a vast increase in their number in the future.

The pyrites from which the gold has been extracted, in a large proportion of the mines that have been worked, is found to be a very valuable quality of copper ore. The largest smelting works of Colorado are now making copper mat containing the bullion, which is shipped to New York and to Swansea, England, to be assayed. This product will furnish an immense carrying trade for the railroad; and from my knowledge of the vast number and richness of these copper mines (which are the richest in gold also), I have no doubt that Colorado, in addition to her gold and silver and lead, will soon produce more copper than any other of our mining districts, that of Lake Superior not excepted. I have just returned from visiting a district about one hundred miles by ten or fifteen in extent lying across the main mountain range west of Denver City, that is pervaded throughout by extensive and rich veins of silver; some are of pure silver ores, but the majority of them are argentiferous galena ores varying in richness; many of them yielding in the smelting furnace as high as six hundred dollars of silver to the ton of ore. Many of the lodes are very wide, and can be traced on the surface for long distances. The water-powers are abundant, and timber plenty through most of the mining districts, and the facilities for mining are extraordinarily good.

In addition to this, at the eastern base of the mountains opposite this mineral for over one hundred and fifty miles from the Arkansas to the Cache la Poudre, bituminous coal of very fine quality, and in veins from five to fifteen feet thick, is found at almost all points. The country thus filled with coal is known to extend eastward on the plains for from fifty to one hundred miles. At various points in this coal region are immense beds of the finest quality of iron ore, and one iron smelting furnace has been successfully put in operation already.

Extensive salt works are in operation in the South Park, supplying the home demand for the article, and capable of a production equal to any probable increase in the future demand. Several extensive oil regions have also been discovered near the base of the mountains. One well, 75 feet deep, yielding about 20 barrels per day, is in successful operation, while others, with greater promise, are being sunk at this time.

ANOTHER GOLD AND SILVER REGION.—The Nebraska Republican has the following:

Major W. R. English has just arrived in our city from Fort Laramie, who brings with him intelligence that there has been discovered about fifteen miles west of Laramie, gold and silver indications exceeding in richness any ever before discovered in this country. Major English brought with him specimens of the croppings of this new discovery, which are in the hands of General Myers and Colonel Patrick. They exceed in richness the first croppings of the celebrated Constock mine of Nevada. It is also stated by Professor North, the geologist, that there are immense deposits of coal in the same region of country. Professor N. has just returned to Laramie from this city to make more thorough examinations of the country thereabouts. The coal discoveries are stated to be of the most decisive character and extend over a large tract of country. All that is needed is for the Government to put down the Indians who are molesting that vicinity this season, to render certain, it is confidently believed, the development of the richest mineral district ever discovered in the United States. Government must give the protection required to develop these new fields of wealth.

A LINE of steam carriages for common roads is to be established between Marseilles, and a small town ten miles distant. The success of the similar line between Nantes and Paris is fully established.

CHIHUAHUA MINES.—"Las Huertas," a mine in Pinal, is said to be in a flourishing condition. The entrance to this mine is in a cleft of the mountain. It is now in the hands of a French house, who work it under the protection of soldiers. The ore is taken from the mine by Indians, who then break it up into pieces about the size of a walnut. The fragments, mixed with litharge, are thrown into furnaces, where they are melted. After several hours it is allowed to run off. The result is called "queta," and is a cake of silver and lead, for the metal is not yet pure. Another mixture of this is made, called "plachin," which is thrown into a second furnace. After six hours melting, the puro "plata" or silver runs out free from all extraneous matter.

The stock men and the agriculturists of Tulare Valley, are discussing the project of an artesian well. In 1858 the thing was tried in Visalia, but abandoned at a depth of two hundred feet. It is probable that a few feet further would have carried them through the clay stratum, and that water would have been obtained.

The Mercantile Library Association of New York have inaugurated a new and very convenient system. They have placed boxes in different parts of the city, in which members may place orders for books they desire. These orders are collected twice a day, and the books sent to the place indicated.

EXPERIMENTS have shown that the London Pneumatic Company can send one hundred and twenty tons of goods through their eighteen miles of tubes every hour, at a cost of less than one penny per mile.

WOODWARD'S GARDENS!
MUSEUM,
Art Galleries, Conservatories and Zoological Grounds,
On Mission and Valencia streets, between Thirteenth and Fourteenth streets.

Open Every Day!
ADMISSION:
To all parts of the Gardens.....25 Cents.
Children, under 12 years of age.....Half Price.

NEW ATTRACTIONS are being constantly added to all departments.
These Gardens are accessible by the Howard, Folsom and Market street Cars.
Schools and Charitable Institutions, accompanied by guardians, free on Mondays and Fridays. 23v13gr

Pacific Mail Steamship Co's
THROUGH LINE TO NEW YORK,
Carrying the United States Mail.

LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the 10th, 18th and 30th of each month that has 30 days.
On the 10th, 19th and 30th of each month that has 31 days.
When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding, when the 18th falls on Sunday, they will leave on Monday following.
Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.
Departures of 18th or 19th connect with French Transatlantic Co's steamer for St. Nazaire, and English steamer for South America.
Departures of 10th connect with English steamer for Southampton, and P. R. Co's steamer for Central America.
Departure of the 30th connects with English steamer for Havre, the port of the new mines.

The following Steamships will be dispatched on dates as given below:
December 29th—GOLDEN AGE.....Capt. W. F. Lapidge.
Connecting with OCEAN QUEEN, Capt. Gray.
Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.
An experienced Surgeon on board. Medicine and attendance free.
These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.
Through Tickets for Liverpool by the Inman Line, can be obtained at office P. M. S. Co., San Francisco.
For Merchandise and Freight apply to Messrs. WELLS, FARGO & CO.

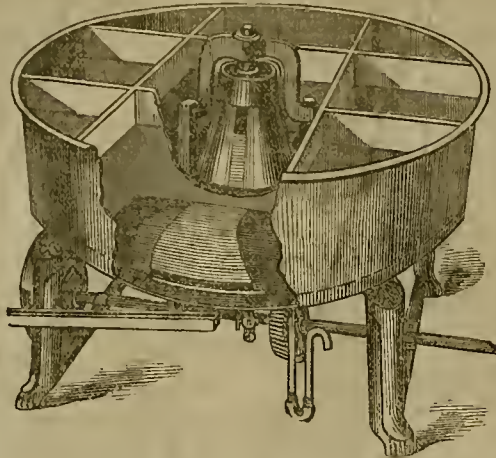
The splendid steamship COLORADO will be dispatched for CHINA on TUESDAY, January 1, 1867.
For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.
OLIVER ELDRIDGE, Agent.

Rheumatism!!
Still Another Witness!

LATHROP, Cal., Sept. 19, 1866.
(White Oak Township, El Dorado Co.)
This is to certify that I have, for over thirty-six years, been afflicted with Chronic and Inflammatory Rheumatism, and the sufferings and tortures I endured in consequence cannot be told. I have, at an expense of thousands of dollars, employed many physicians, both in this country and in Europe (where I was born and resided many years), among which were several eminent professors of medicine, and I experienced no benefit from their treatment, more than at times a slight and temporary relief.
About two years ago I was induced by some persons who had been cured by it to use Richard's Remedy for Rheumatism. It is enough to say that I was almost immediately relieved, and that I have not suffered with it since. I keep the medicine on hand, and, on the first approach of any returning symptoms, I take a few doses, which invariably puts it to flight. I therefore cordially recommend it to all afflicted as an unfailing remedy for Rheumatism.
25v13
FRED'K FABER.

Knox's Improved Patent Amalgamator and Separator,

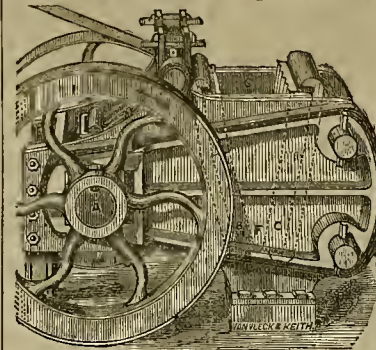
With Palmer's Patent Steam Chamber or Die.



For further particulars, inquire of
ISRAEL W. KNOX, on
W. A. PALMER, Inventors,
At the Golden State Iron Works, No. 19 First street, San Francisco.

Machinery.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.
The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:
No. 1.—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....\$600
No. 2.—Or 15-inch Crusher, capable of reducing from three to five tons per hour.....\$850
No. 3.—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour.....1,200

EXPLANATION OF THE ABOVE ENGRAVING.
The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.
The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, A, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.
The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Vulcan Foundry, First street, San Francisco.
The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:—
"Rawhide Ranch, August 10, Sept. 28, 1866.
JAMES BRODIE, Esq., San Francisco—My Dear Sir: I give you pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use at the Rawhide Ranch Mining Company's Mine, which has entirely met my expectations, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,
Supt. Rawhide Ranch Quartz Mill."

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.
Those utilizing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$500 per Barrel.
A diagram, with explanation of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-ELAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.
A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.
PROBIE & RABELEE,
Express Building, 402 Montgomery street, San Francisco. 12v13lf

Notice to Miners,

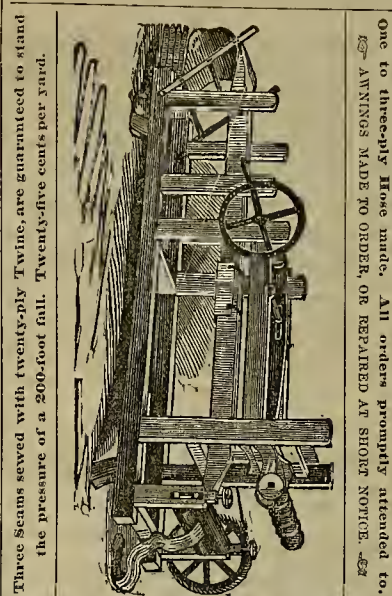
Well-Borers and Water Companies.

M. PRAG is now prepared to manufacture Horizontal and Vertical Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.
M. PRAG,
8v13-ly Stove Store, No. 125 Clay street, below Davis.

Such a journal has been needed on the Pacific Coast. The Press fills the bill.—[Reese River Revivell.

PATENT HYDRAULIC HOSE SEWING

By S. HOWARD,



No. 326 DAVIS STREET, San Francisco. 22v13-3m

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

114 Beale Street, San Francisco. 23v12 3m

STRONG & CO'S

CELEBRATED UNION PAN!

A fast Grinder and thorough Amalgamator; has double Mullers, Trolling Shoes and reverse action. Millmen and others are respectfully invited to examine this Pan, before purchasing of any other, as it gives the best satisfaction. Can be seen in operation, daily, at the San Francisco Foundry, Fremont street, near Mission.

Ores, in lots not exceeding 2,000 pounds, tested by
22v13 G. W. STRONG, Assayer.

NITRO GLYCERINE.

Nobel's Patent Blasting Oil!

WE ARE NOW PREPARED TO SELL NOBEL'S PATENT Nitro Glycerine. The same is stored with Mr. O. S. SWENSON, at Michigan Bluff, Placer county, from where the Oil has to be received by purchasers. Application to be made to Mr. C. S. Swenson, or to the undersigned.

IGNITERS AND CARTRIDGES!

For sale at the same place. 23v

Mr. Swenson is willing, if desired, to show purchasers the mode of blasting, either at his own mine, Michigan Bluff, or at the places of purchasers. Pamphlets, with minute instructions, will be presented to every purchaser or applicant.
BANDMANN, NIELSON & CO.,
21v13 210 Front street, San Francisco.

FOR SALE!

QUARTZ AND MINING MACHINERY

ONE GARDNER'S THUNDERBOLT CRUSHER, Largest size and best quality; is entirely new, with all extras—has a large lot of other Quartz Machinery, including Engines, Boilers, etc.
16v13 **COFFEY & RISDO**

Ready for the Steamer "Colorado,"

On the 1st of January, 1867.

TO BE PUBLISHED ON THE DEPARTURE AND ARRIVAL of the Pacific Mail Company's steamer to and from China.

THE CALIFORNIA CHINA MAIL

—AND—

FLYING DRAGON NEWSPAPER.

Printed both in the English and Chinese languages, for China, Japan, Australia, Borneo, Siam, Malacca, Singapore, Hindostan, etc., etc.
One of the immediate and most striking results of this mutual intercourse, will manifest itself in the fact that this country will be

EIGHT DAYS

Ahead of Europe in its commercial intercourse with the countries of the East; and ultimately this line of communication must be the preferred road of the silk trade, etc., instead of the Suez route.

The price of the "California China Mail" will be

Twenty-five Cents per number—Annual Subscription, including Supplements, \$10 per Annum.

Advertisements, business notices, etc., in English only, will be charged fifteen cents a line; in CHINESE and ENGLISH, twenty-five cents per line; and one dollar extra for the translation of the first fifty characters; and one cent per character all exceeding fifty.
Copies of THE CHINA MAIL AND FLYING DRAGON may be had at all the offices of the Pacific Mail Steamship Company, in China and Japan.
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The Mercantile Gazette

—AND—

PRICES CURRENT,

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The Mercantile Gazette and Prices Current is the only

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For enclosure in letters, is also published every

STEAMER DAY. 13v13lf

REPORT

—OF THE—

COMMITTEE

—ON—

SEWING MACHINES!

California State Fair, 1866:

"TO THE PRESIDENT OF THE STATE AGRICULTURAL SOCIETY:

Your Committee on Sewing Machines beg leave to report that we have examined the several Sewing Machines on exhibition, (the Grover and Baker, the Wheeler & Wilson, and the Florence,) and find that

FOR GENERAL FAMILY USE

—THE—

"FLORENCE"

—IS—

"THE BEST."

(Signed) J. N. ANDREWS,
THOMAS C. MCMALE,
L. ELKUS.

If there is a FLORENCE SEWING MACHINE within one thousand miles of the San Francisco Office, that is not working well and giving perfect satisfaction, it will be attended to, if I am informed of it, without expense to the owner.

SAMUEL HILL,
General Agent, 111 Montgomery street, San Francisco. 17v13

TRUSSES! TRUSSES!!

Abdominal Supporters!

Shoulder Braces, Etc., Etc.

WE WOULD CALL THE ATTENTION OF DEALERS and others to our complete assortment of these goods, including Bartlett & Hummel's Celebrated BALL AND SOCKET REVERSIBLE TRUSS, which is decidedly the best article ever introduced into this market. By a combination of the movement of the ball and socket, and the movable arm, any desired angle may be obtained. Call and examine for yourselves. A liberal discount to the trade.
SHEPARDSON & GATES, Agents.
22v13-3m Corner Sansome and Commercial streets.

Just Published.

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS of the Nervous System and Reproductive Organs, to be had by addressing and enclosing twenty-five cents, postage stamps, to Secretary PACIFIC MUSEUM OF ANATOMY, Montgomery street, San Francisco. 12v13 ly

With the last number is an index to the whole volume, most useful and valuable to those who keep files of that paper.—[Slashta Courier.

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—OF THE—

Mining and Scientific Press.

FROM JULY 1, 1866 TO JANUARY 1, 1867.

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